PLAYBOOK



pep+™
pepsicopositive
planet + people



Bjorn Bernemann

President of International Beverages Franchise

"In PepsiCo we're strongly committed to our Sustainability agenda and therefore set ambitious targets to achieve our vision – a world where packaging needs never become waste.

We know it's not easy and we face challenges across all sectors to source recycled plastic which at times comes at significant premiums. We need your full engagement on the 5C model to build action plans around it for your market and to understand where we need to intervene to have great impact and make a difference"



Jamie Mackay

VP of International Beverages Franchise

"The origin of the 5C to Circularity model came from collecting all the incredible work that has been done to date within the markets but also with deep analysis on our competitor.

Fundamentally it brings a comprehensive end to end lens to the efforts required, cross company and cross functional, intended to secure supply but also in a way to extract maximum benefit & drive down cost over a short, mid & long term timescale. It aligns the whole system against a set of objectives, and helps to minimize tension across competing priorities"

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About this Playbook

This is a living document and will be updated regularly as new insights and strategies are developed, Best Practices are codified

The goal of this playbook is to provide an End-to-end approach to working on Plastic circularity on a given market

First edition of this playbook is being released in June 2023

Second edition with an updated section on Consumer and new Best Practices to be expected in November 2023

1st EDITION



2nd EDITION



How to use this Playbook



The playbook is recommended to be used to run a 1-2 days long cross-functional System (PEP + Bottler team) 5C Workshop. List of global-sector experts to involve is provided in Appendix.

A pre-work is highly recommended to collect necessary materials and knowledge base for the Workshop, and ensure a successful outcome. List for pre-work provided in Appendix.

The outcome of the Workshop is documented in a 5C Action plan. Progress should be reviewed on monthly basis. Initiatives from the 5C Action plan are documented as part of the 3Y Joint plan. Templates provided in Appendix.

Cross-functional system team to be involved in 5C workshop

Function	Introduction	Consumer	Collection	Conversion	InClusion	Customer	Action plan finalization
GM	!	Owner of 5C Action Plan					!
Sustainability	!	Workshop co-facilitator					!
Franchise	!	Workshop co-facilitator					!
Corporate Affairs	!		!		!		!
Insights	!	!				!	!
Category/Marketing	!	!				!	!
Sales/Commercial	!	!				!	!
Finance	!		!	!	!		!
Supply Chain	!		!	!	!		!
Procurement	!		!	!	!		!
R&D	!			!	!		!

! Functions crucial to provide input / participate

Note: Legal and Communications department need to be involved into Action plan finalization.

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Content & Navigation

Consumer	Collection	Conversion	InClusion	Customer	Consumer
Business question	Business question	Business question	Business question	Business question	Business question
Key materials	Key materials	Key materials	Key materials	Key materials	Key materials
Best practices	Best practices	Best practices		Best practices	Best practices

APPENDIX | List of experts | Available resources | Preparation to 5C Workshop | Templates

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Increasing Pressures

Competitive

Consumer

Internal

Regulatory

rPET Cost Increase

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IB Packaging Goals

Commitments	2022 Actuals
100% RCBR compliance (2025)	**92%**
-20% Absolute tonnage of virgin plastic (2030)	**+19%**
35% rPET inclusion (2025)	**9%**
20% of servings in reuse (2030)	**13%**

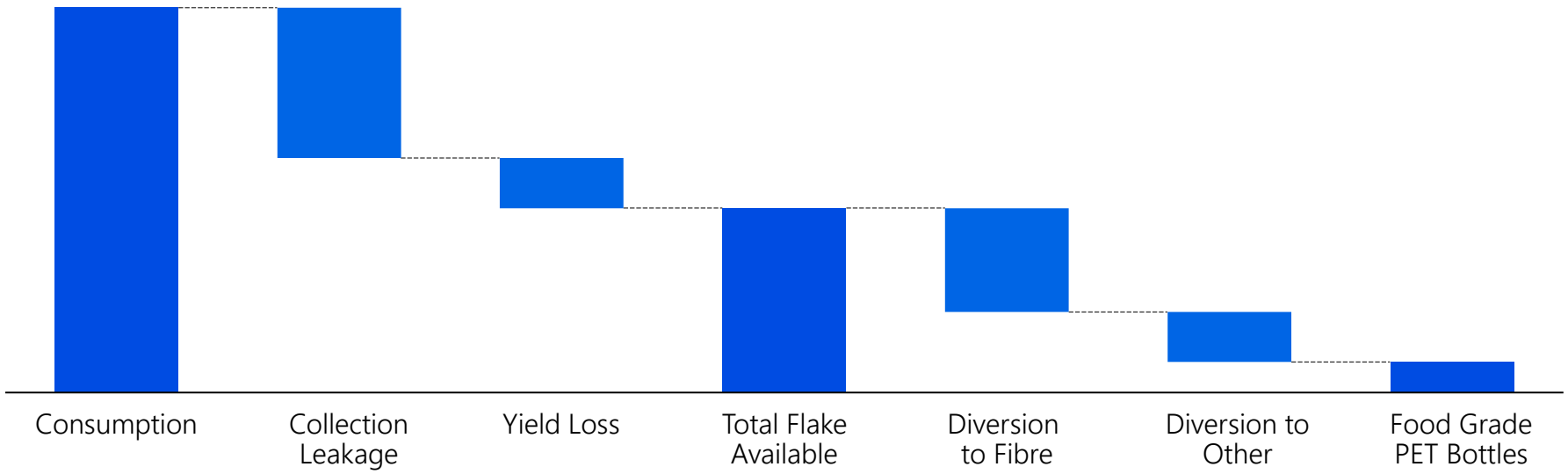


Source: GSO

50% of bottles are lost on collection to flake, ~40% are downcycled or used elsewhere afterwards

Bottles produced %	100%	39%	13%	48%	27%	13%	8%





Source: Wood Mackenzie

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5C model is an E2E approach to achieve plastic circularity by addressing 5C with focus on rPET

Drive 100% Circularity and RCBR Compliance



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5C to Circularity

CONSUMER

It all starts with consumers and their recycling habits. Our brands have a critical role to play in educating and motivating them to recycle.

rPET drives engagement and reward consumers for their recycling efforts. The intensity of communication might differ between markets depending on how ready our consumers are for recycled plastic content.

Drive Acceptance

Educate Recycling Habits

CUSTOMER

Bottles made of recycled plastic can open a whole new chapter of relationships with our key customers. Which will enable them customers to support work on their own sustainability goals. It also allows us and to unlock commercial value; through sales execution, price pack architecture or collaboration with other sustainability goals, like sugar reduction or Green House Gas emissions.

Commercialize Bottle
Unlock value

COLLECTION

Recyclable material needs to be collected to be further used. Creating infrastructure is crucial to achieve high collection rates. Well-designed policies and programs involving industry leadership can be key enablers to this important transformation.

Create the Infrastructure

CONVERSION

Once collected, packaging is sorted. The better sorting is organized, the more likely a plastic bottle will end up converted into a new one, rather than something else. We need to work on securing plastic Bale to maximize its supply for the system.

Secure the Bale
Convert to rPET flake

INCLUSION

Plastic Bale is chopped, washed and converted into flake which in turn can be used to create pre-forms for new bottles. We need to increase the InClusion rate of recycled plastic in these pre-forms to achieve packaging circularity.

Convert rPET flake to preform


It all starts with consumers and their recycling habits. Our brands have a critical role to play in educating and motivating them to recycle.
Educate Recycling Habits
CONSUMER
Drive Acceptance
COLLECTION
Create the Infrastructure
CONVERSION
Secure the Bale Convert to rPET flake
INCLUSION
Convert rPET flake to preform
CUSTOMER
Commercialize Bottle Unlock value
5C
to Circularity

Key business question to answer for the team

Diagnostic



What % of population is concerned about plastic waste issues? What is the attitude of my consumers to plastic?



What do my consumers know about recycling? How engaged are they into it?



What's the collection rate on the market?



What education is happening on a national level/industry/ institutions level around recycling?

Action Plan Development



What is the best way to engage consumer in recycling in my type of market?



What are the right brands to leverage to nudge recycling?

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Nascent

NO RECYCLING NORMS

Low level of recycling rates and concern



<2.5kg recycled per person
<5pts importance of environmental issues



Transitioning

RECYCLING IS EMERGING

High recycling rates but low concern OR High concern but low recycling



>2.5kg recycled per person **OR**
>5pts importance of environmental issues



Established

RECYCLING IS NORMALISED

High level of recycling rates and concern



>2.5kg recycled per person **AND**
>5pts importance of environmental issues



Source: Recycling rates: Wood Mackenzie (Plastic Collection Rate %) & Concern: Sonic 2.0 (Explicit importance of environmental issues), Buzzback rPET consumer understanding (package sustainable perceptions)

Insights

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Nascent

COUNTRIES VISITED



WIDER CLUSTER



Insights

Recycling context

Nascent Cluster

Little to no infrastructure

There is very little – if any – infrastructure in or out of home. This lack of infrastructure is a significant barrier to establishing recycling habits

“Recycling is a thing the councils are supposed to do for Indian people but … it doesn’t happen"

Bharati Chaturvedi,
Environmental Activist, IN

Low engagement

Consumers lack engagement: not only because of infrastructure inefficiencies, but because no one is talking about it or doing it around them

“People in Thailand are relaxed, but that means they’re lazy when it comes to recycling”

Patarapol Tularek,
Sustainability Consultant, TH

Recycling is effort

Recycling involves more effort than consumers’ current behaviour (put it all in the same bin), and that extra effort is not rewarded

“I’m resisting how hard it is to recycle in this country”

Forward, KSA















01 02 03

Transitioning

COUNTRIES VISITED



WIDER CLUSTER



Recycling context

Transitioning Cluster







Confidence is low

Whilst there is a willingness to recycle, lack of clarity in their personal role and systemic inconsistencies in where, how and when to recycle creates inaction

“They don't know the rules. They don't know how the system works. They don't know the importance of recycling”

Dr Ana Paulo Bortoleto, Academic, BR

Recycling hubs are surfacing

Infrastructure is informal and in its infancy. Yet it is becoming more visible and structured so recycling associations are beginning to emerge

“Some states such as California have bottle deposit return schemes at parks & other public hot spots”

[US1]

Effort doesn’t match reward

There is a mis-match between the perceived level of effort required to recycle & the level of reward received for the act

“ECOCE campaigns in Mexico, offering incentives (food or money) in return for collected plastic, have proven successful"

Manolo Ruiz Ingelmo, Sustainability Expert, MX





1. https://www.healthyoptions.com.ph/newsdigest/a-plastic-planet-what-we-are-leaving-behind/what-we-can-learn-from-san-Francisco

01 02 03

Established

COUNTRIES VISITED



WIDER CLUSTER



Recycling context

Established Cluster















A system based on threat & punishment

Recycling is framed around 'cost' – environmental, social and financial (e.g., penalties or higher fees for waste collection). Recycling is chore, any extra effort goes unrewarded and unrecognized.

"All residents here recycle because no one wants to be the black sheep responsible for increasing collection bills for everyone else"

Forward, PL

Recycling happens on auto-pilot

Plastic disposal isn't thought about or considered; it's instinctive (and easily incorrect). This is particularly evident OOH where infrastructure is patchy and behaviour less prompted than in-home

"Across ethnographies we witnessed automatic behaviour or assumed knowledge resulting in mistakes"

[China, Poland, UK]

The benefit of recycling is vague

Management of plastic waste lacks transparency and breeds myths and misconceptions. The benefits of waste sorting are unclear and far off, creating psychological distance between action and impact.

"People care about recycling as a big thing, but we need to make it easier for them to connect their individual actions to the wider issue"

Anna Turns, Journalist, UK

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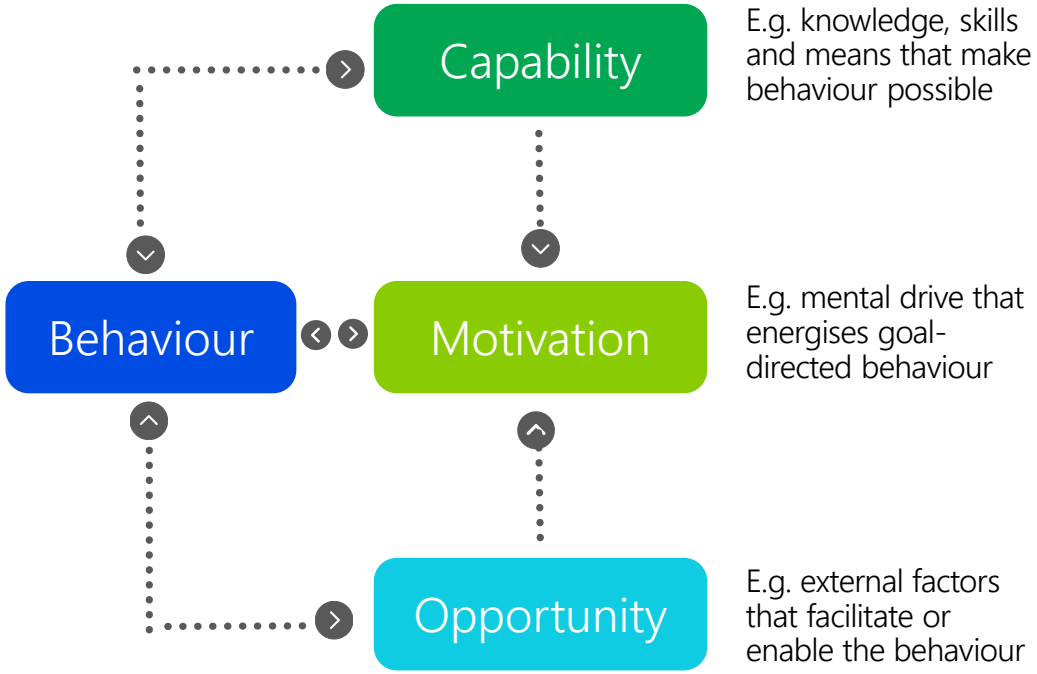
How do we understand behaviour

Using the COM-B model, which help us understand and change behaviour

The model has been proven to accurately and comprehensively identify factors that influence behaviour

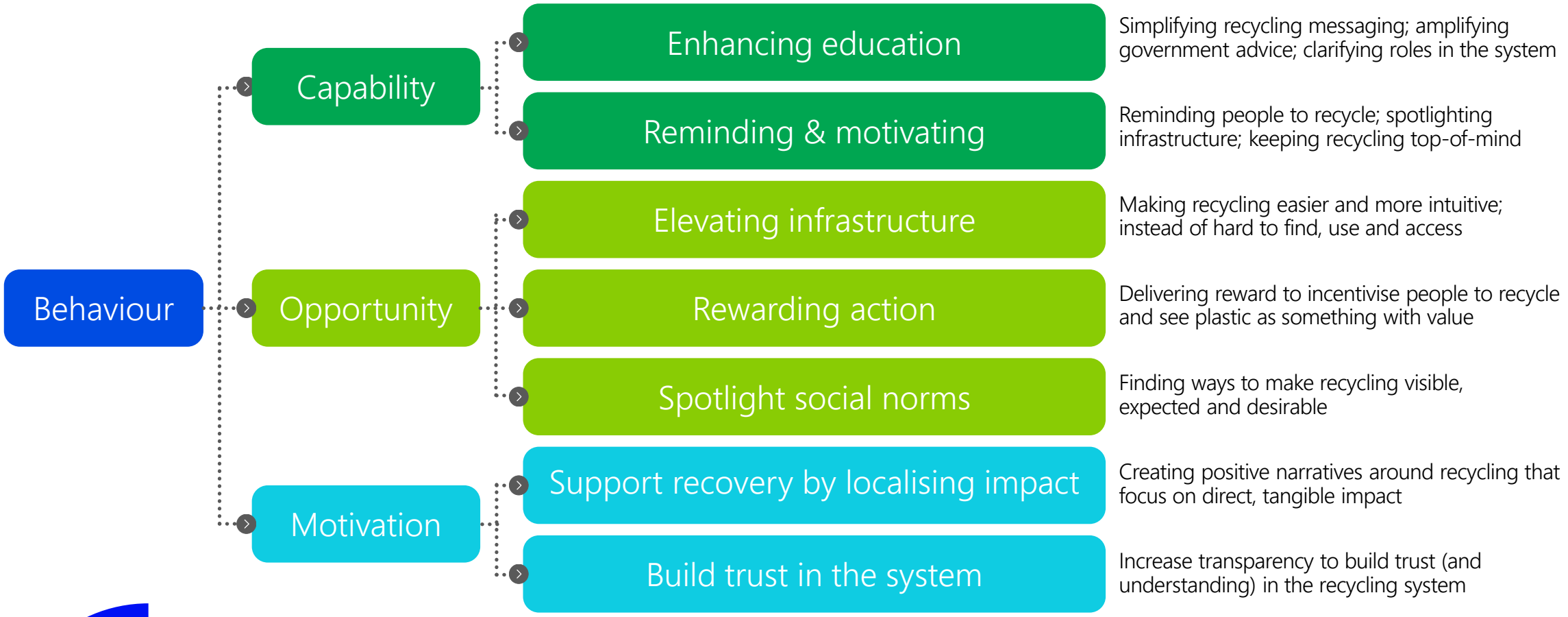
It **simplifies** the complexities of **behaviour into 3 understandable and shareable components**, to drive behaviour change

Once we understand what is influencing behaviour, we can design interventions to **target and change that component**



Source: The Behaviour Change Wheel: A new method for characterising and designing behaviour change interventions (2023), Susan Michie, Maartje M van Stralen, Robert West

Seven global JTBD to increase recycling rates



How to win global JTBD strategies

		Nascent	Transitioning	Established
Opportunity	Elevating infrastructure	Strategically invest in infrastructure		
	Rewarding action	Establish recycling rewards		
Capability	Enhancing education	Communicate one simple action		
	Reminding & motivating			Disrupt people's autopilot
Motivation	Support recovery by localising impact		Localise impact meaningfully	

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Insights

How to win key cluster actions

		Nascent	Transitioning	Established
Opportunity	Elevating infrastructure	Strategically sponsor bins	Sponsor bins	
		Waste collector partnerships	Waste collector partnerships	
	Rewarding action	Rewards: Financial	Rewards: Points-based	Rewards: Points-based
		Rewards: Points-based	Rewards: Social Currency	Rewards: Social Currency
Capability	Enhancing education	Drive a simple action	Drive a simple action	
	Reminding & motivating			Disrupt: guerrilla marketing
				Disrupt: Provocative On Pack
Motivation	Support recovery by localising impact		Bring to life circularity	Bring to life circularity

Nascent Blueprint

How to drive impact...

Goals

PIONEER ACTION THAT MAKES RECYCLING EASY AND REWARDED



Context	Strategy	Action	Priority
Consumers have little to no access to recycling infrastructure which is a significant barrier	**Elevating infrastructure** Strategically invest in infrastructure	**Sponsor Bins & Create Pop Ups (+Waste Collector partnerships)** • Partner with stores • Sponsor "fun and engaging" bins at events (sports & music) • Partner with waste collector tech	Lower effort Higher value
The lack of 'reward' is a prominent barrier. In Nascent markets the effort is higher than any other markets, yet there is no reward	**Rewarding action** Establish Recycling Rewards	**Provide instant financial reward (consider points based)** • Simple, instant reward • Points system • Partner with retailers to offer variety of rewards	Higher effort Higher value
Knowledge and awareness of recycling is absent. People lack confidence in what and how to recycle	**Enhancing education** Communicate simply	**Boldly drive a simple action (Focus on packaging)** • One simple message • High visibility on pack • Consistent comms across portfolio • Focus on recyclable message	Lower effort Lower value

Insights

Transitioning Blueprint

How to drive impact...

Goals

PUSH PEOPLE TO ACT BY MAKING RECYCLING EASY, REWARDED AND LOCALISED



Context	Strategy	Action	Priority
Consumers have little access to recycling infrastructure which is a significant barrier	**Elevating infrastructure** Strategically invest in infrastructure	**Sponsor Bins & Create Pop Ups (+Waste Collector partnerships)** • Partner with stores • Sponsor "fun and engaging" bins at events (sports & music) • Partner with waste collector tech	Lower effort Higher value
The lack of reward is a prominent barrier. In Transitioning markets people know plastic has value but is no reward	**Rewarding action** Establish Recycling Rewards	**Build points-based reward** • Prioritise points-based rewards • Gamify rewards • Integrate donation & charities	Higher effort Higher value
Knowledge and awareness of recycling is very low. People lack confidence in what and how to recycle	**Enhancing education** Communicate simply	**Boldly drive a simple action** • One simple message • High visibility on pack • Consistent comms across portfolio • Recyclable AND recycled message	Lower effort Lower value
Consumers are disconnected from the benefits of recycling	**Support recovery by localising impact** Localise Impact meaningfully	**Bring to life benefits of circularity, locally:** • To know the impact/benefit of recycling • Partner with NGOs (Credible activations) • Tailor impact to local relevance	Lower effort Lower value

Established Blueprint

How to drive impact...

Goals

CATALYSE ACTION BY DISRUPTING, REWARDING AND LOCALISING RECYCLING



Context	Strategy	Action	Priority
Consumers know enough to act but recycling is not top-of-mind or easily becomes pushed aside	**Reminding & Motivating** Disrupt people's autopilot	**Initiate guerrilla marketing and be provocative on pack** • Market around bins to grab attention • Takeover key hubs • Disruptive labelling & impacting comms campaigns • Recyclable AND recycled message	Lower effort Higher value
The lack of 'reward' is a prominent barrier. In Nascent markets the effort is higher than any other markets, yet there is no reward	**Rewarding action** Establish Recycling Rewards	**Build points-based reward with integrated social currency** • Gamify social reward • Integrate donation • Recognise your effort (shows recycler status through medals, badges or leaderboards)	Higher effort Higher value
Consumers are disconnected from the benefits of recycling	**Support recovery by localising impact** Localise Impact meaningfully	**Bring to life benefits of circularity, locally** • Partner with NGOs (Credible activations) • Tailor impact to local relevance	Lower effort Lower value

Global blueprint
What everyone should do....

CAPABILITY
(REMIND)



Driving a simple, bold and consistent message on PACK & COMMS

Simple messages, highly visible and consistent across portfolio

Nascent & Transitioning

- Focus on Product Package
- Recyclable Message

Established

- Product Package + Mkt Comms (Provocative, bold package, "Guerrilla Mkt"
- Recyclable and Recycled

OPPORTUNITY
(REWARD & REMIND)



REWARD mechanisms through partnerships

Financial reward focus

Strategically investing in INFRASTRUCTURE

Sponsor bins & create pop-ups at events / Takeover key hubs

Nascent

- Instant and simple financial reward

Transitioning & Established

- Points based reward, gamification, social recognition (donations & charities)

Nascent & Transitioning

- Waste Collector Partnerships

MOTIVATE



Localising the impact, meaningfully through COMMS & PARTNERSHIPS

Bring to life benefits of circularity

Transitioning & Established

- Tell success stories
- Based on Community Efforts
- Partnerships with local NGOs to create credible activations

Best Practices



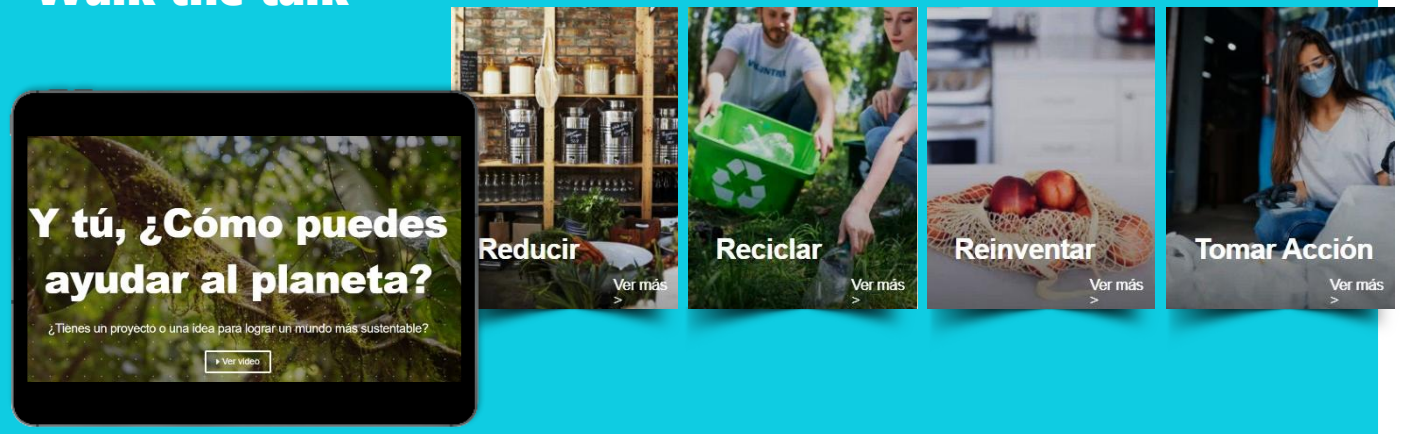
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National Geographic LATAM: Co-creation fundamental for our partnership to work

Educate & Inspire



Walk the talk



- Masterclass with NatGeo explorers
- Documentaries – Organic PepsiCo stories
- Challenge- call to action to be part of the solution
- Reduce, Recycle, Reinvent & take action web planet love

Content creation with:

04 Influencers (NatGeo Explorers)

04 Partners (Ciclo, Copercaps, YABT, KHANA)

04 Bottlers (GEPP, POSTOBON, AMBEV, CBC)

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Comprehensive calendar

Leveraging the power of Nat Geo with local Pepsi brand stories in key moments to drive conversation

EARTH DAY Apr 22nd

RECYCLING DAY May 17th

ENVIRONMENT & OCEAN'S DAY June 5 & 8th

April → **May** → **June**

Nat Geo - Credibility - Consistency

Master Classes

Episodes local relevancy

Challenge









Amplification with the power of Pepsi brand

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Outstanding initial results with great PR value and engagement

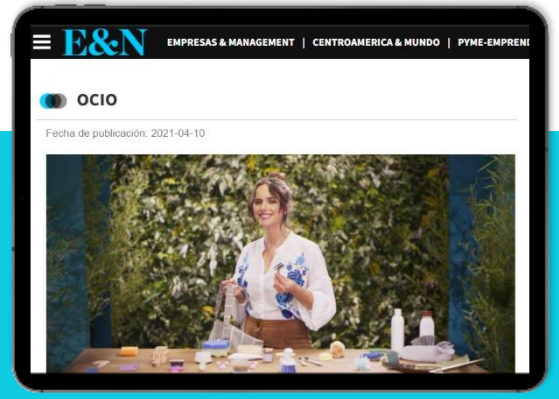
MILENIO

Mexico
UMV: 30M+



ESTRATEGIA&NEGOCIOS E&N

America
UMV: 2.1M+



AMERICA RETAIL

Chile
UMV: 5.1M+



TotalMedios

Argentina
UMV: 1M+



16
Markets Reached

71.5M
Impressions

1.4M
Ad Value

+88%
Higher ratings than last 30 days in Nat Geo programming

Australia: Recycle & Reclaim … and Remake

	REMAKE	RECYCLE	RECLAIM
Objective	Drive awareness that Pepsi Max is not 100% rPET	Encourage people to recycle	Drive awareness that Pepsi Max is not 100% rPET
Insight		90% of people recycle at home but due to inconvenience, only 70% recycle out of home	Only 16% of plastics produced were recovered in 2021; people don't know how to help
JTBD	Tactical awareness driver bottles are now made of bottles	Make recycling easy and rewarding when out of home	Make/show that clean ups are easy and fun

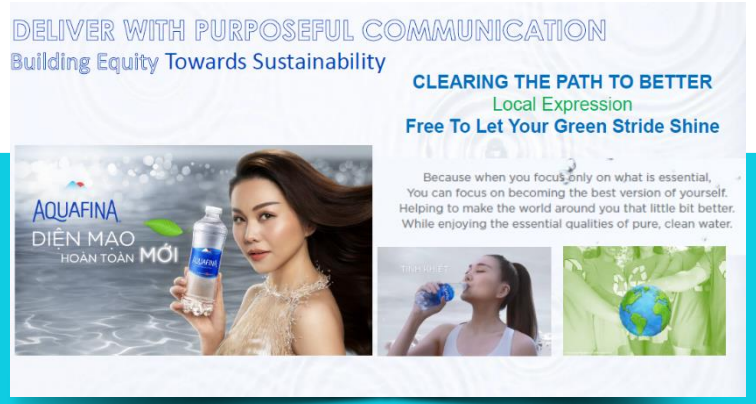




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Vietnam: Ripple Effect









Egypt: “Recycle for Tomorrow”

SITUATION

Around **2.8m tonnes of plastic** waste leaked into the Mediterranean sea, annually. Egypt's cut is accounts for **43% of the total.**

This leakage, as well as the large amounts of discarded plastic bottles and bags is the result of a **poorly functioning system of plastics management.**

According to the latest Plastic Management Index, Egypt’s journey to grip control on plastics has started a bit late:

- Plastics management governance is weak but improving.
- Waste collection, processing and recycling lack efficiency and transparency.
- Changing consumer behavior is a long-term struggle
- Multi-stakeholder action is sorely needed.



SOLUTION

“Recycle for Tomorrow” is PepsiCo Egypt’s new trailblazer platform for waste management.

The platform aims at **creating awareness about the importance of recycling and waste management** and undergoing on ground recycling initiatives.

The Platform includes several projects:

- Reverse Credit System – PET collection and recycling.
- Consumer Awareness campaigns – Recycle for Tomorrow campaign.
- Segregated recycling bins in key Egyptian touristic sites.

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Recyclable material needs to be collected to be further used. Creating infrastructure is crucial to achieve high collection rates. Well-designed policies and programs involving industry leadership can be key enablers to this important transformation.

Key business question to answer for the team

Diagnostic

What is the current PET collection rate on the market?

What is the current infrastructure for collection and recycling of PET on the market?

What are the key bottlenecks/losses causes for collection?

What is the current legislation on recycling? What are the anticipated changes in it?

What are our competitors doing to improve collection?

How can we increase Collection rate on our market?

Which infrastructure could help?

Which policies should we advocate for as a System?

Action Plan Development

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Support infrastructure creation to ensure Collection



Curbside bins



Collection points



Reverse vending machines



Waste picking

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Types of Collection globally

Informal waste pickers



Persons informally engaged in collection and recovery of reusable and recyclable solid waste from the source of waste generation the streets, bins, material recovery facilities, processing and waste disposal facilities for sale to recyclers directly or through intermediaries to earn their livelihood.

Integrated waste pickers



In a handful of cities across the world, there are promising inclusive recycling experiences that can act as models for integrating waste pickers.

Curbside collection



A service provided to households, typically in urban and suburban areas, of collecting and disposing of household waste and recyclables. It is usually accomplished by personnel using specially built vehicles to pick up household waste in containers that are acceptable to, or prescribed by, the municipality and are placed on the kerb.

Bag drop off redemption center



A staffed facility operated by a Recycling cooperative that accepts empty beverages containers in special bags from consumers. Bottles are then counted manually by staff. A refund is provided in cash or store credit. This system is popular in some US states.

Reverse vending machines



A machine that allows a person to insert an empty glass bottle, plastic bottle, or aluminum can in exchange for a reward. After inserting the recyclable item, it is then compacted, sorted, and analyzed. Once the item has been scanned and approved, it is then crushed and sorted into the proper storage space for the classified material. Upon processing the item, the machine rewards people with cash or coupons.

Less technologically advanced method → **More technologically advanced method**

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Key packaging regulation definitions

Regulation Type and Definition of policy proposals

Extended Producer Responsibility (EPR)

Fees levied on packaging based on type of material and weight; used to pay mainly for curbside recycling collection and sorting

Minimum Recycled Content Mandate (MRC)

Requirement to include a percentage (e.g., 30%) of post-consumer recycled material in a new package as a means to strengthen end markets

Packaging Taxes

Many forms, including landfill and litter taxes; interest has shifted to single-use plastics found in beach litter and resin taxes



Deposit Return Scheme (DRS)

Deposit charged to consumer to incentivize return of the beverage container; additional industry fees pay for the net cost of the system

Reuse Targets

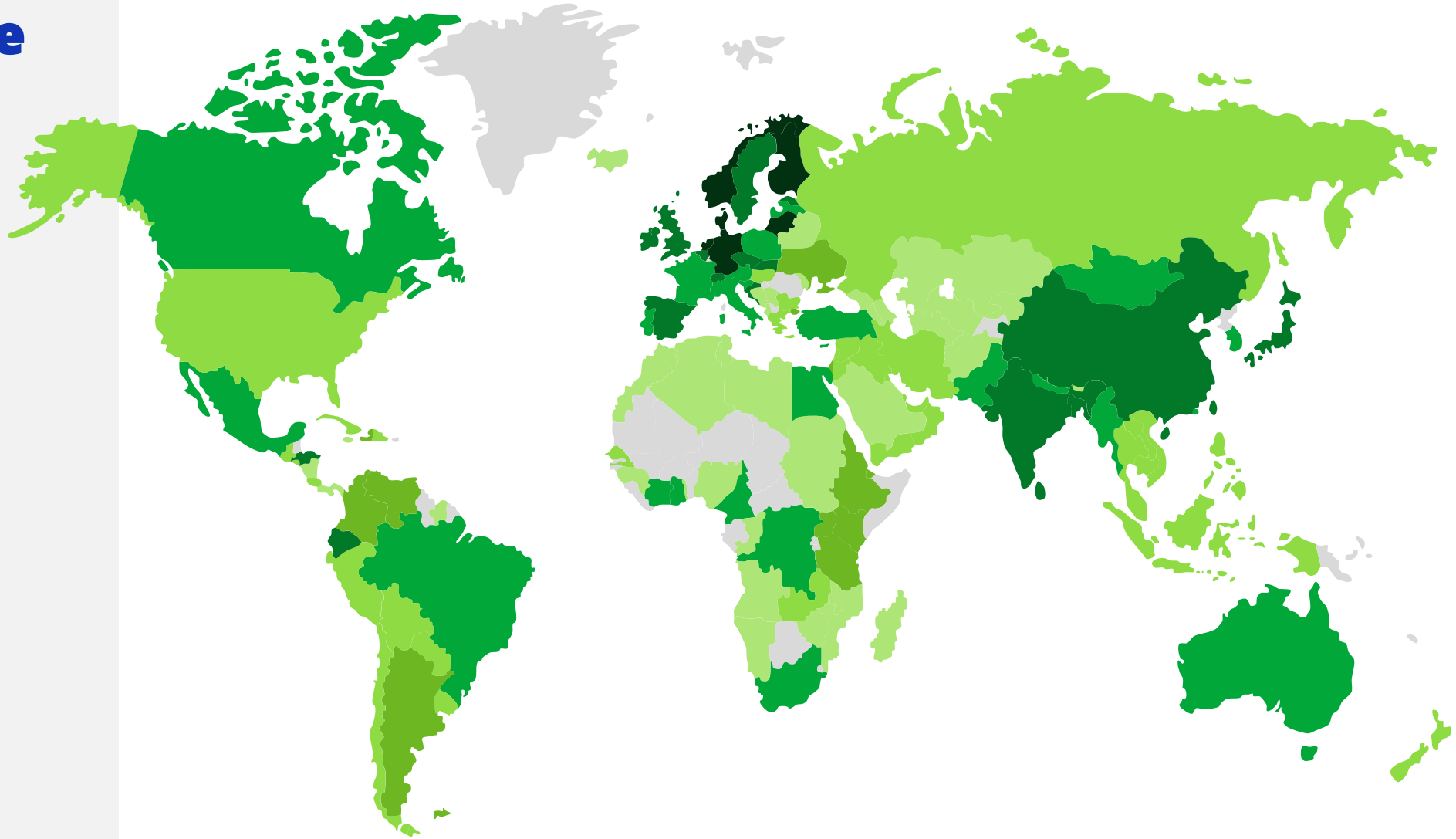
Emerging policy mandating manufacturers meet a certain % of reusable packaging in their overall portfolio – metric measurement is unclear.

Plastic Packaging Bans

Plastic material is banned from use

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Legislation has a massive impact on Collection rates



- -
- 0-20%
- 20-40%
- 40%-50%
- 50%-70%
- 70-90%
- >90%

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PepsiCo Advocacy

07 broad principles



Efficient, cost-effective and accountable



Shared financial responsibility



Strong environmental outcomes



Long-term financial sustainability



Convenient for consumers



Producer access to recycled plastics



Social inclusiveness and fairness, especially when informal sector involved

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Policy: Extended Producer Responsibility (EPR)

WHAT & WHERE



Extends a company's responsibility for its products to include the disposal of the packaging. Expected to proliferate as governments shift waste management costs to industry and set more ambitious recycling targets.

In place in 30 countries, including most of Europe and Canada, implementation WIP in Col and Chile

FINANCIAL IMPACT



Fee paid by producers for each product unit based on type and weight. Used to finance curbside recycling collection and sortation; consumer education, anti-litter campaigns and government oversight.

PEP POSITION



Well-designed EPR programs address a broad range of packaging materials, deliver strong environmental outcomes at reasonable cost.

Industry-run EPR systems tend to offer highest degree of control over costs while contributing significantly to improved recycling.

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Policy: Deposit Return Schemes (DRS)

*Depending mainly on deposit level and consumer convenience, or the ease with which consumers can redeem the container

WHAT & WHERE



Economic incentive to consumers for the collection and return of used beverage containers. The deposit will be reimbursed to consumers upon the return of the packaging to an authorized redemption site. In almost all cases, the deposit and or refund rate is set by government.

In place in over 30 markets, particularly in the US, Canada, Europe and Australia.

FINANCIAL IMPACT



Producer impact varies widely: from low impact, admin fees (British Columbia) to high impact deposit, handling fee, and pick-up and processing fee for each container (New York).

PEP POSITION

PEP is **publicly supportive of well-designed programs** but may vary by market; where appropriate, we are committed to shaping systems in line with our vision of a smart system design on key design parameters, provided these systems do not create friction with EPR programs.

In well-designed, effective programs, DRS can achieve a ~80-95% collection rate*

Focus on small part of packaging waste stream. Consequently, they tend to be inefficient, inconvenient, costly, and highly complex and subject to extensive fraud

Usually achieves higher recovery rates for beverage containers as compared to PR/curbside collection, with less contamination

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Policy: Recycled Content

WHAT & WHERE



Designed to increase demand for post-consumer recycled (PCR) content by requiring producers to incorporate certain percentages of PC into new beverage containers.

Regulatory horizon:

20% in 2025 established in 2020) & 30% in 2030.

25% in 2025;
and 30% in 2030.

FINANCIAL IMPACT



Could have increase financial impact due to rET premium price.

rET availability represents a challenge.

PEP POSITION



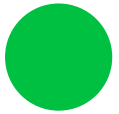
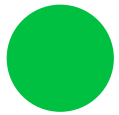
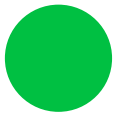
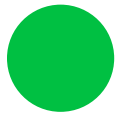
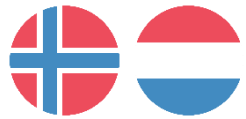
PepsiCo prefers voluntary PCR commitments over mandates (market distortion, supply disruptions and increased cost premiums).

Well-designed policies: incentives or reduced fees in EPR schemes provide a better avenue.

*Depending mainly on deposit level and consumer convenience, or the ease with which consumers can redeem the container

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Advocate for the best infrastructure for Beverages

	Bale Quantity	Bale Quality	Infrastructure Cost	rPET Cost	Examples
Informal Waste-picking					
Well-designed EPR					
Industry-led DRS					

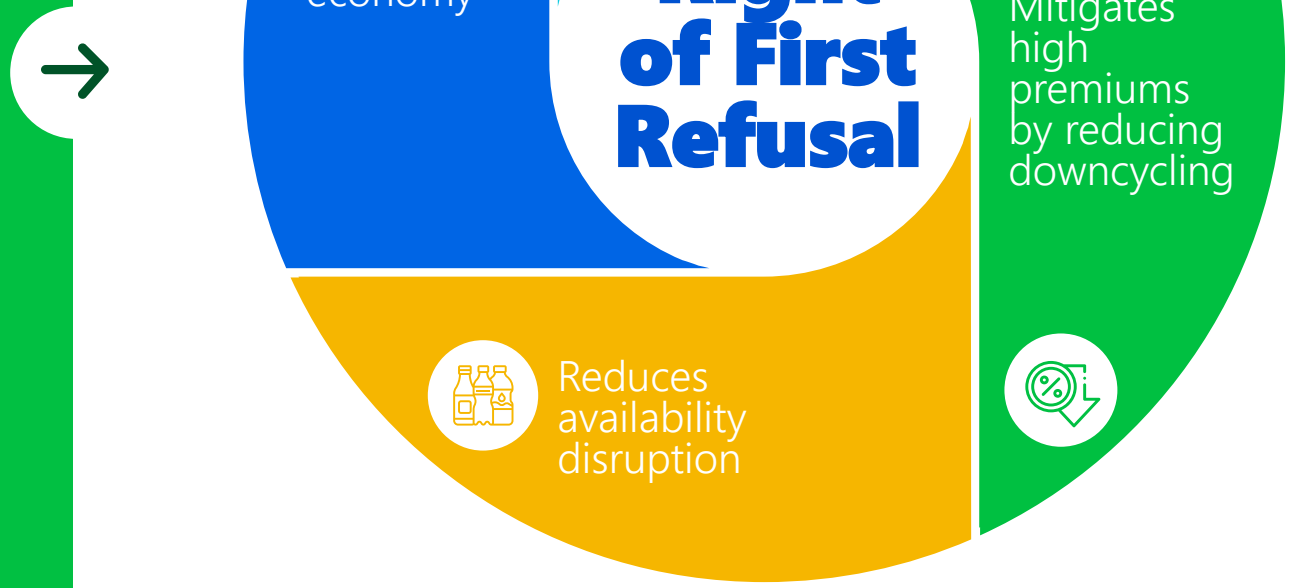
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Emerging policy challenge Securing the Right of first refusal: The right to access your collected fair share

EPR ⟷ **MRC Mandate**

Producer access to collected materials





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Regulatory plastics unlocks: Advocacy strategy

Pursued outcome: build and commit to a joint advocacy strategy

Aligned policy position paper and messaging

#1

Collaborative task force with specific roles (global, regional and local advocacy levels)

#2

Stakeholders' engagement

Trade associations (local, regional, global)

Government decision makers

NGOs / KOLs

Other key players

#3

Communication strategy

Increase awareness (roundtables, Op-Eds, etc)

#4



The economic case: Investment Employment



The sustainability case: Circular Economy

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International Franchise – 5C Circularity Playbook

Policy Advocacy Roadmap – Beverages

	Horizon 1[1] (1-2 years)	Horizon 2 (2-5 years)	Horizon 3 (5+ years)
Mature markets with effective, well-designed EPR (e.g., Europe, Canada)	• **Optimize existing legislative frameworks** to increase curbside collection and bottle-to-bottle recycling • Where appropriate, include active **advocacy on DRS policy** aligned with PEP principles • **Secure right of first refusal** to collected materials • Drive adoption of clear rules for **recycled content calculation and claims** • **Further evolve regulatory landscape** as necessary to include, for example, landfill bans and additional incentives	• Continue to drive industry alignment and **develop additional beverage collection programs** (e.g., away-from-home or DRS) to further increase collection rates • Develop system-wide **internal cross-functional capabilities** (e.g., Corporate Affairs, Finance, Sustainability Office, Procurement) to facilitate implementation of collection programs	• **Explore use of non-traditional feedstocks** and necessary regulatory approvals
Markets in transition with nascent EPR (e.g., US, South Africa, some markets SE Asia)	• **Establish industry-run PRO** and leverage EPR implementation process to prioritize bottle-to-bottle recycling	• **Finetune eco-modulation** to incentivize recycled content, bottle-to-bottle, recycling and other sustainable design features • Where appropriate, **explore harmonized MRC goals or targets[2]** in line with principles	• **Scale collection programs** • **Further evolve regulatory landscape** as necessary to include, for example, landfill bans and additional incentives
Markets without regulated EPR/ waste collection	• **Ensure approval to use rPET in food-contact materials** and build out supply chain • **Drive collection through voluntary initiatives** to lay groundwork for policy action • Build industry **alignment around EPR** principles • **Advocate for government incentives** to scale sortation and recycling capacities	• **Scale voluntary initiatives** towards significant milestones as pre-cursor for legislation • Educate on benefits of and **advocate for well-designed mandatory EPR programs**	• Seek other regulatory incentives for bottle-to-bottle recycling or recycled content incorporation • Drive industry alignment and develop additional beverage collection programs (e.g., away-from-home or DRS) to further increase collection rates

1. Note activity organization into horizons 1-3 are a general approximation; activities may spill over into other horizons depending on the market and market maturity is expected to gradually evolve; advocacy strategies need to be informed by and reflective of local circumstances.
2. Recycling should encompass any current or future recycling technology (not limited to mechanical recycling).

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Best Practices



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Pakistan: Partnerships with local and global organizations



CONTACT DETAILS

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saadmunawar.khan@pepsico.com

INITIATIVE SUMMARY

- To develop ecosystem in Pakistan for rPET by ensuring regulatory readiness, driving consumer affordability and protecting system profitability

WHAT DID YOU DO

- Helped regulators developed standard on use of rPET, while leveraging industrial alliances and advocacy with federal and provincial food authorities to achieve approval of the standard within 10 months, a process which takes 1.5 – 2 years
- Partnered with local and Global Organizations (e.g. WWF, Novatex etc) to launch largest PET collection and recycling program in Pakistan (~32M tons in 2022, 40% consumption). Journey started in 2020
- Onboarded Novatex (biggest resin supplier in Pakistan) to invest in rPET capability back in 2019, and achieved supplier qualification in 6 months post commercial production in 2022
- Negotiated with Novatex 1st of its kind Costing model offsetting rPET premium on clear resin by cost of collection, and discount on green rPET resin

BUSINESS IMPACT

- Negotiated Net premiums for rPET <5% (as high as +40% in developed markets)
- Engaged with Bottlers to develop 2030 glidepaths and get alignments
- PepsiCo became the 1st company to launch rPET beverage bottle in Pakistan with a 360 degree communication plan, partnering with Ministry of Climate Change, Food authorities and NGOs and getting their endorsements

BARRIERS NEEDED TO OVERCOME

- Lack of any regulatory framework for use of recycled Packaging for Food/Beverage
- No formal Plastic Collection Infrastructure, very low PET collection rates (<40%) when we started this project
- No Local rPET resin supplier base, High premiums for Import Options (>40%)
- Low Consumer Awareness around rPET, lower likeability with concerns around safety, hygiene and Halal Aspects of recycling process

WHY IS THIS A BEST PRACTICE

- Developed Unique costing model which can be replicated across other markets
- Developed Circular economy for plastics within our value chain

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Mexico: ECOCE, voluntarily producer responsibility organization (PRO)

Created by the beverage industry in 2002 to avoid TAX on PET

Attend
Legislative and regulatory agenda

Awareness-raising
On the importance of recycling

Promotes
Recyclability, research and development

Eco-reto



212 schools
47K students
14 T/FY 2021

Institutional



429 institutions
64 k participants
40 T/FY 2021

Mobile points



Only in Mexico City & Oaxaca
400 T/FY 2021

Events



16 Events in Mexico
2 T/FY 2021

*Figures to improve during 2023 as we get back to normality

Voluntary System

- ECOCE was created by a group of beverage companies to coordinate their actions and promote recycling in Mexico when faced with a potential tax on beverage containers.
- ECOCE is a voluntary PRO modelled after European EPR PROs and it now includes more than 30 companies using a range of different packaging materials.
- ECOCE operates across all of Mexico. It charges its members a fee based on the amount of packaging put on the market. The fees are used to cover the cost of collecting and recycling different materials.
- In 2021, ECOCE helped recycle 62% of PET in Mexico, making it a leader in Latin America. Thanks to improvements of the entire system, the market value of PET increased, offsetting almost all collection fees.
- About half of the collected materials are converted into rPET for beverage containers with most of the transformation happening in Mexico.
- That said, much of the collection still hinges on the informal waste sector and it took ECOCE 20 years to achieve these rates

Current PET Committee

gepp · JARRITOS · Grupo Peñafiel · DANONE ONE PLANET. ONE HEALTH

JUMEX · Coca-Cola · Nestlé · EMBOTELLADORA aga DEL CENTRO · niagara BOTTLING, LLC

Members represent 63% of PET put on the market

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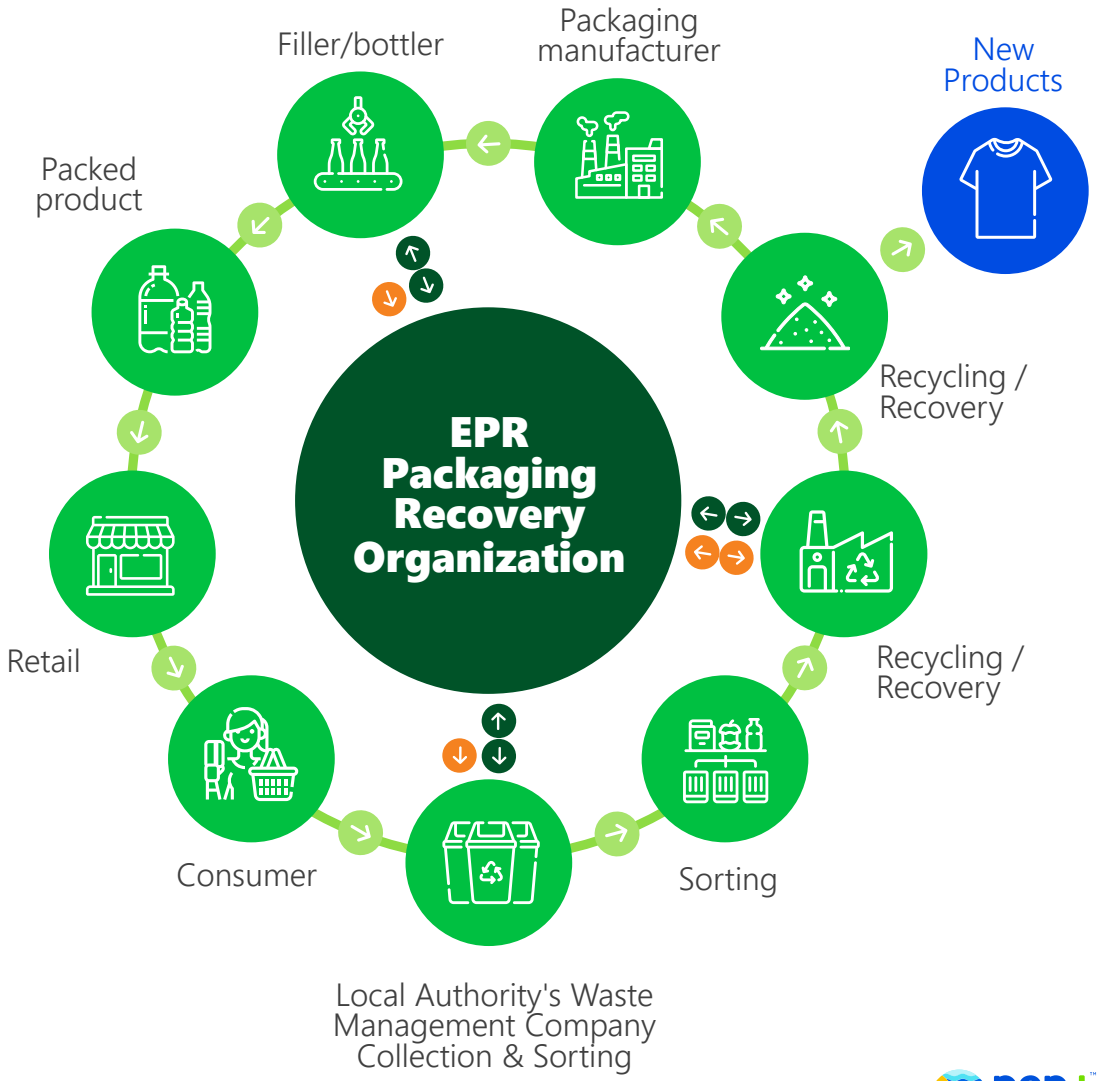
Belgium: well-designed EPR System

Packaging cycle

In Belgium, the EPR system for household packaging in place is based on the shared responsibility principle. Waste is a regional competence (Flanders, Wallonia, Brussels). As such, every region develops its own waste policy. However, when it comes to packaging, all three regions have a common agreement on EPR. Municipalities are responsible for the household waste collection and treatment, but they transferred their competences to their intermunicipal company which acts on their behalf. Fost Plus is an EPR Non-profit organisation that handles the operational activities of collecting, sorting, and recycling in Belgium. For the promotion and coordination of recycling of both industrial and commercial packaging, there is another EPR player, VALIPAC.

Businesses affected by EPR:

- Produce and package goods to be marketed in Belgium
- Import packaged goods to be marketed in Belgium
- Import goods and unpack them



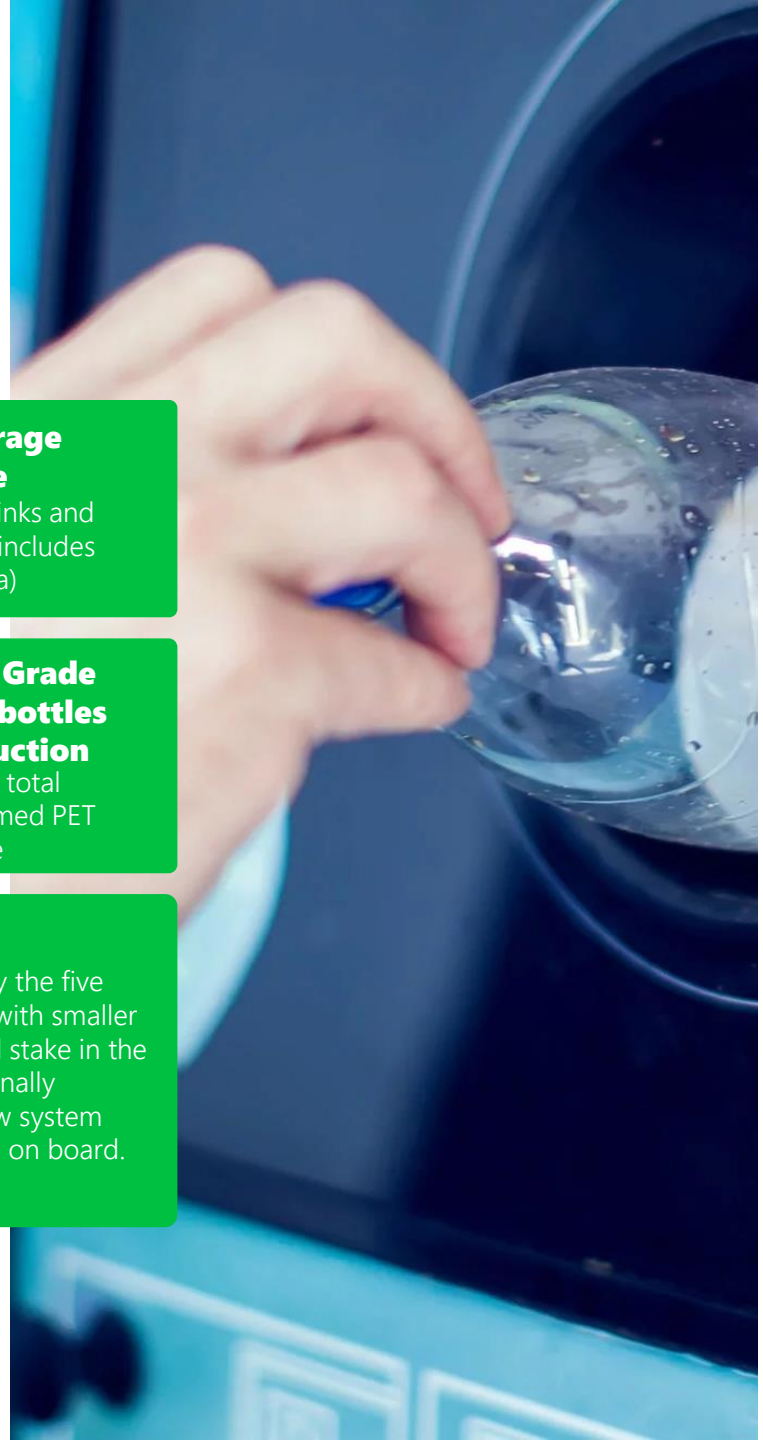
Contract agreements

Financed by fees

This graph illustrates PROs' role within the product and waste management circular process.

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Netherlands: DRS System Case Study



Deposit rate
€0.25
($0.28 USD)

Material Scope
Single use plastic bottles >.75L

Beverage Scope
Soft drinks and water (includes iced tea)

Redemption rate
95%

Year implemented
1980s (current system since 2007)

Food Grade rPET bottles production
45% of total Consumed PET volume

System administrator
Stichting Retourverpakking Nederland (Netherlands Return Packaging Foundation

Governance
The central organization is run by the five largest producers and contracts with smaller producers, who have no financial stake in the organization. Retailers were originally involved but withdrew; in the new system being designed now, they will be on board.

Features of note

The system operates with a return-to-retail model using RVMs that have shape recognition only. The RVMs, which also accept refillable beer bottles in crates, are unable to count empties by brand owner, necessitating the use of centralized counting centers run by SRN. Currently there are 4,200 RVMs in place (880 are RVM Systems, the rest are TOMRA machines), most of which will need to be replaced by RVMs that count and compact bottles onsite when the scope of the DRS expands to include smaller plastic bottles in 2021 (expected to pass June 2020).

While system finances are decentralized and not transparent (SRN does not track producer or retailer revenues, nor does it report its own financials), it is likely that producers make a profit due to minimal fees vs. revenue from unredeemed deposits, unredeemed VBR, and scrap sales.

A unique feature of the system is the €0.0625 VBR fee. VBR is paid to the producer by the retailer when buying product, and it is reimbursed to the retailer by SRN when the container is redeemed by the consumer. Producers get to keep unredeemed VBR. o The VBR system was the brainchild of a market leader in retail who realized they were taking back more bottles than they were selling and wanted to cover costs; retail chains that take back less than they sell are at a disadvantage.

In the new system, VBR will be replaced by a more traditional handling fee to be paid by the central organization, raising the costs for the organization and therefore the producers.

Participation in SRN's system is voluntary; discount retailers Aldi and Lidl have their own bottle return systems. They only take back bottles they sell, and either do not pay a refund back.

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Once collected, packaging is sorted. The better sorting is organized, the more likely a plastic bottle will end up converted into a new one, rather than something else. We need to work on securing plastic Bale to maximize its supply for the system.

Key business question to answer for the team

Diagnostic

How does the conversion value chain look like?

What are the bottle-necks? Yield losses?

How much is downcycled and why?

What is KO/other competitors doing to drive conversion?

Who are the key suppliers of rPET? Are they certified in line with PepsiCo standards?

What are the current premiums on rPET on the market and what are the drivers behind their dynamic?

How can we ensure we minimize conversion losses (RCBR compliance)?

How can we improve the supply and costs from procurement perspective?

What should be our approach to split additional costs and investments?

Is there an option for a vertical integration? What are the potential costs behind this initiative?

Action Plan Development

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The battle for rPET bale is driving premiums

$



Bale Demand >>> Bale Supply



$$$

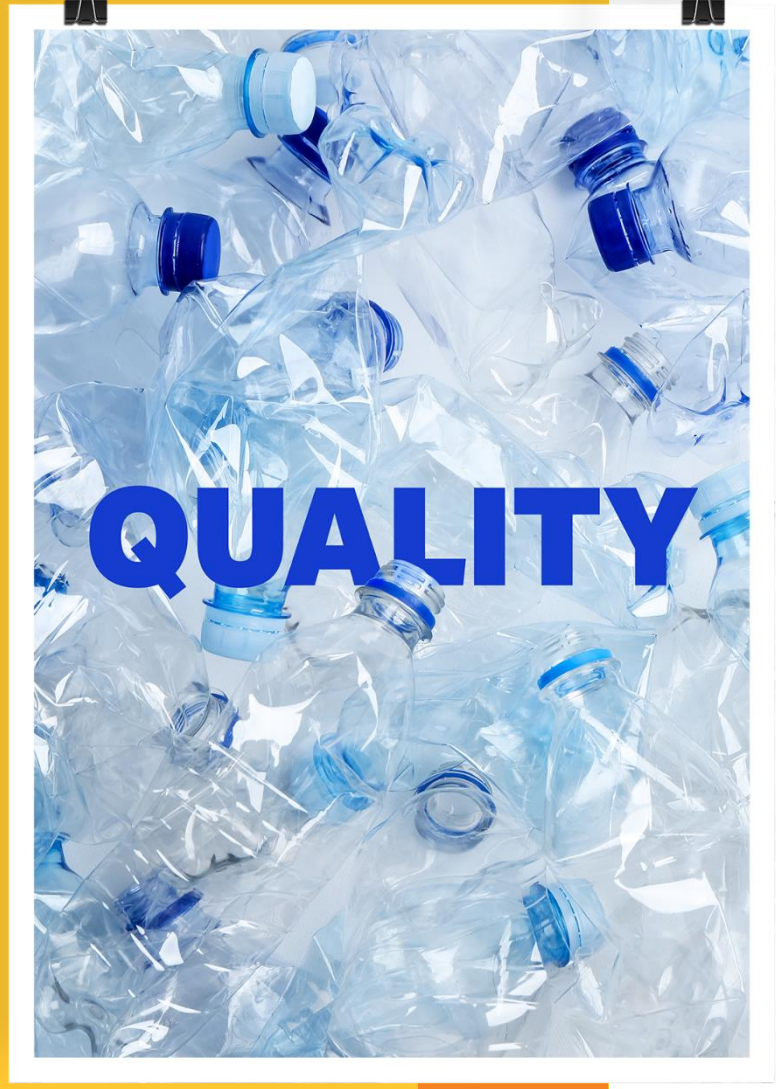
5-70% premium

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Secure the bale to optimize supply and rPET cost by working on two fronts

QUALITY: Ensure RCBR compliance of the packaging and promote it within the industry. Move to transparent bottles from neon and green.

QUANTITY: Reduce downcycling and repurposing of the plastic bale





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rPET Supply Chain – The key is to manage collection costs

Recycling & Collection | **Sorting & Bailing**

60%-65% of costs



A lot of people in the supply chain: trash pickers, small recycling centers and bailing suppliers

Dynamic cost change due to weekly review on bottle quantity and textile volume demand

rPET production

35%-40% of costs



Costs depend on MOH, Manufacturing costs and suppliers' profit

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So far we observed 4 ways to improve supply of PET Bale



Procurement

Long-term agreements with rPET suppliers can help to hedge premiums and stabilize supply

Joined procurement efforts between PepsiCo and Bottlers can allow for sourcing at lowest price available for our system in current circumstances

Vertical Integration

Investment in Conversion infrastructure requires due diligence and strong business case.

Apart from stability of rPET supply it allows for conversion costs savings on preforms production as well as ability to manage technology modernization (e.g. switch to multilayer preforms to drive lightweighting)

Infrastructure

Create a recycling stream with Modern Trade, with lower costs: leverage Reverse Vending Machines or simpler solutions to collect PET at a point of sale

Legislation can also become an unlock. A well-designed DRS System can be costly to setup, however ensures high quality of plastic bale for the market and high collection rates which in turn pull down rPET premiums

Partnerships

Establish long-term partnerships among recycling suppliers, rPET suppliers and Bottlers.

Solution depends on the particular market and plastic value chain players on it.

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3-layer rPET Funding Model Franchise

With Bottlers being responsible for Make/Move/Sell, our historical bias was that bottlers need to absorb the rPET premium.

However, with our pep+ and packaging agenda being a major and urgent PEP strategic imperative, we realized that we will not deliver our goals if we don't reconsider this position but we didn't have a systematic or consistent method in place to assess if & when PepsiCo should consider funding.

Therefore, we developed a **3-layer model,** that translates multiple inputs, mitigation opportunities, Franchise cycle and further considerations to guide rPET investment choice in an objective way. Obviously, the decision to co-fund or not **has to be embedded in the franchise governance and go to the franchise governance board**.

Out of >20 key markets tested in 2022, only 5 markets we recommended to consider co-funding. Outcome of the model may evolve over time as internal and external conditions change.

(Training is available on ADA or PEP U Degreed)



Financial Analysis rPET costs

Pressure exerted on the Bottler

System Financial Assessment

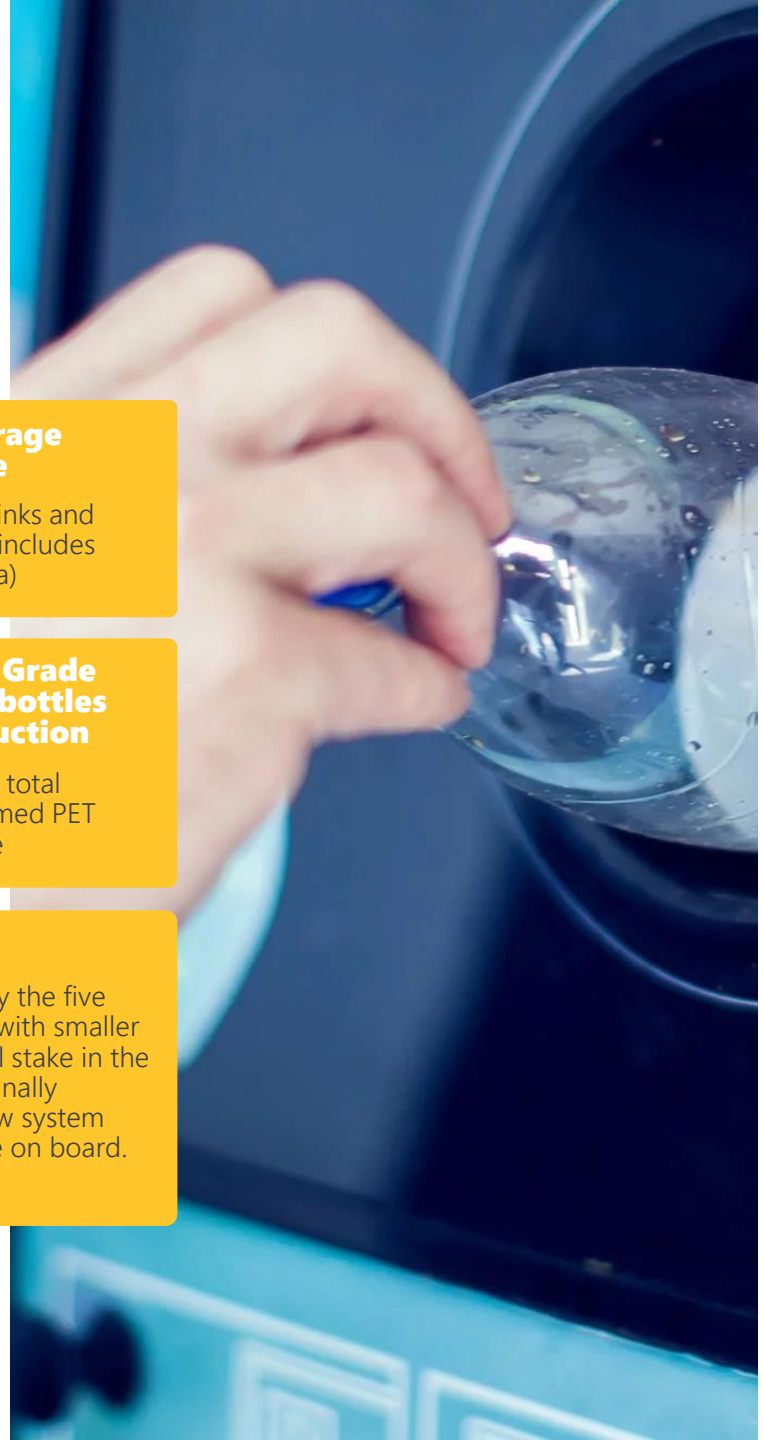
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Best Practices



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Netherlands: DRS System Case Study



Deposit rate

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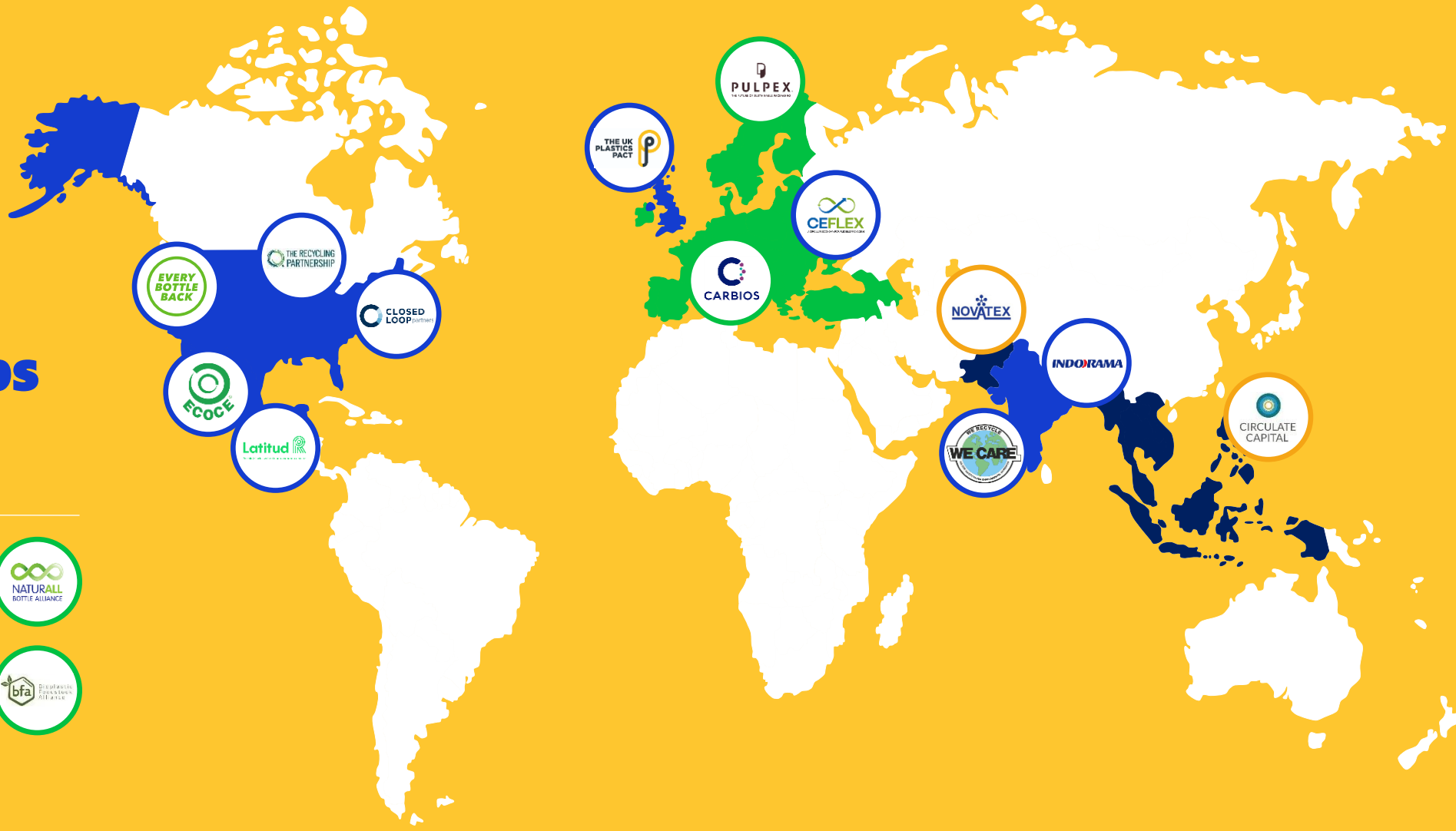
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Leverage Partnerships all around the World

Reduce, Recycle & Reinvent Partnerships

Global



ALLIANCE TO END PLASTIC WASTE · NEW PLASTICS ECONOMY · NATURALL BOTTLE ALLIANCE · The Consumer Goods FORUM · TRASH FREE SEAS ALLIANCE · WORLD ECONOMIC FORUM · bfa

For more details on PepsiCo partnerships for Sustainable Packaging contact Jeff Halvorson (Global Sustainability Office)

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Plastic Bale is chopped, washed and converted into flake which in turn can be used to create pre-forms for new bottles. We need to increase the InClusion rate of recycled plastic in these pre-forms to achieve packaging circularity.

Key business question to answer for the team

Diagnostic



What types of PET are available on the market?



Can light-weighting technology be leveraged to reduce required plastic and optimize costs?



Are their suppliers certified inline with PepsiCo standards?



What is an rPET supplier certification process in PepsiCo?

Action Plan Development



How does our glidepath for rPET inclusion looks like by pack-size/brand?



Which brands/pack-sizes should we prioritize?

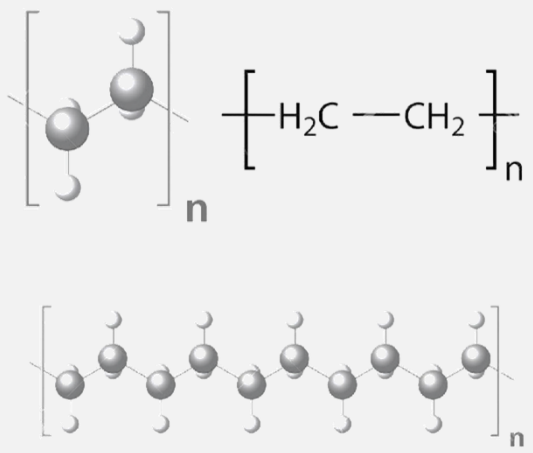


What types of recycled plastic should potentially be used in H1, H2 and H3?

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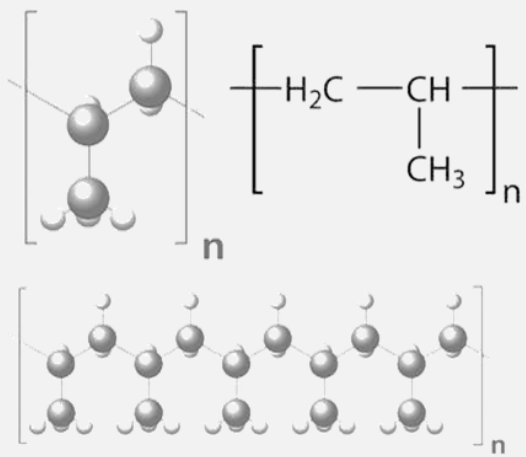
Main Types Of Plastics For Packaging

Polyethylene (PE)



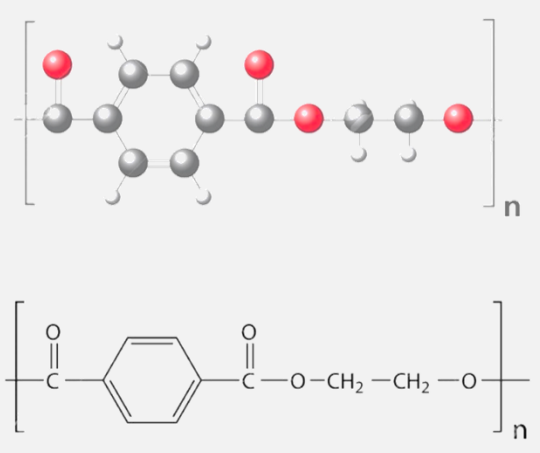


Polypropylene (PP)





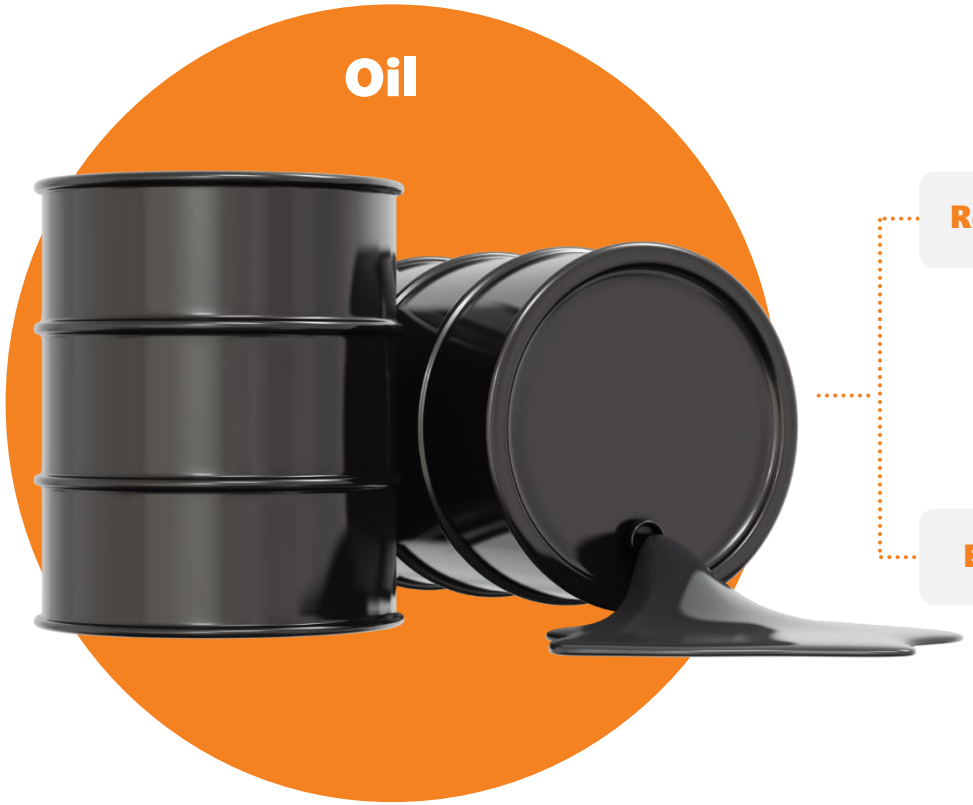
Polypropylene Terephthalate (PET)





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PET is: Polymerization of 2 different monomers



Refining → ParaXylene (PX) → **70%** **PTA** Purified Terephthalic Acid

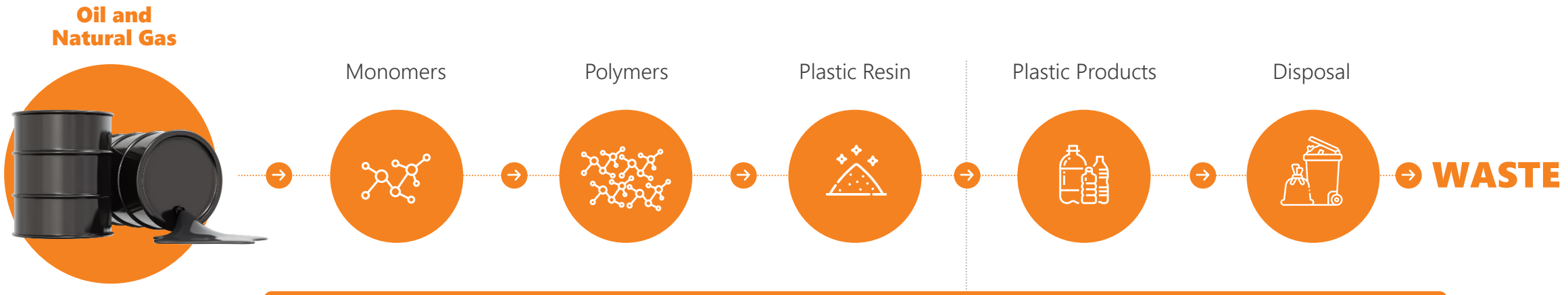
Ethane → Ethylene → Ethylene Oxide → **30%** **MEG** Monoethylene Glycol



PET
PolyEthylene Terephtalate

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The Linear Economy of Plastics



KEY PLAYERS

PE/PP films

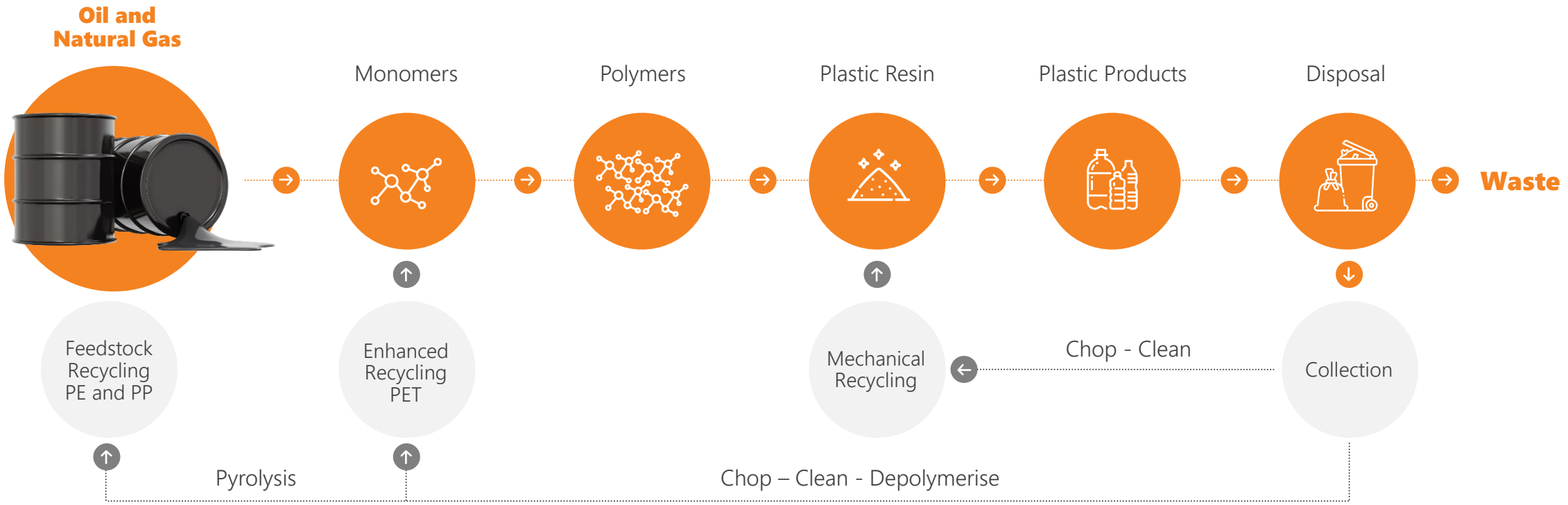
سابك sabic · BASF · TOTAL · DOW · ExxonMobil · Printpack · Bemis · AMERICAN PACKAGING CORPORATION

PET bottles

INDORAMA VENTURES · DAK Americas · 遠東新世紀 FAR EASTERN NEW CENTURY · amcor · Plastipak · RETAL · GRAHAM PACKAGING COMPANY

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The Linear Economy of Plastics





Feedstock Recycling: Pyrolysis is the heating of an organic material, such as biomass, in the absence of oxygen. Biomass pyrolysis is usually conducted at or above 500 °C, providing enough heat to deconstruct the strong bio-polymers into raw materials for new plastic, fuel, or other chemicals.



Enhanced Recycling: Uses chemical means to depolymerize PET feedstock to the original monomers, then repolymerizes into new PET resin. The new resin has the quality and performance of virgin fossil fuel PET, does not suffer degradation, and allows us to significantly widen the feedstock to non-bottle polyester like textiles, carpets and trays, which do not get recycled and otherwise goes to landfill. erPET is complementary to mrPET



Mechanical Recycling: While rPET is a simple and efficient process (chop – wash – melt), it requires tight control of feedstock (only clear PET beverage bottles) and after multiple melt cycles, the molecules suffer degradation

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Mechanical Recycling of PET, PP and HDPE



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Mechanical Recycling Process

High Level Overview of Plastics Recycling

Collect





Sort





Convert





Use





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Mechanical Recycling (grinding, washing, typically re-melting) accounts for majority of rPET

Bottle Recovery

Material Recovery Facilities

Curbside

MRFs

Deposit Containers

Sortation

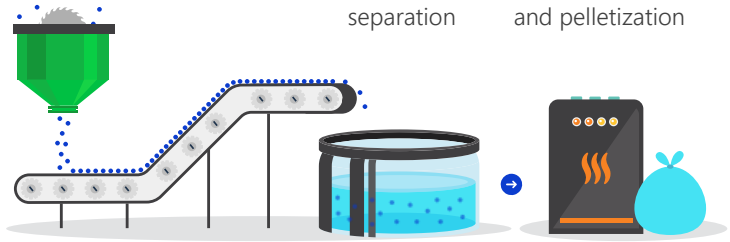


Reclaimers Operations

Shredding and Granulating

Washing and contaminant separation

Drying, decontamination and pelletization



Bottle Grade rPET



Paper Materials Added

- Gable-top and aseptic cartons
- Beverage cups (Hot & Cold)
- Ice cream containers
- Clamshells
- Trays

Plastic Materials Added

- Bottles & Jars
- Small/Large plastic containers
- Small/large plastic lids
- Clamshells/Domes/Trays
- Beverage Cups

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There are variations of mechanical recycling which include efficiencies, such as this one – Flake to preform, rather than flake to pellet to preform

⊘ Steps are avoided.

Basis:

rPlanet Earth offers unique Flake to preform process

Flake Decontamination





Flake directly to preform

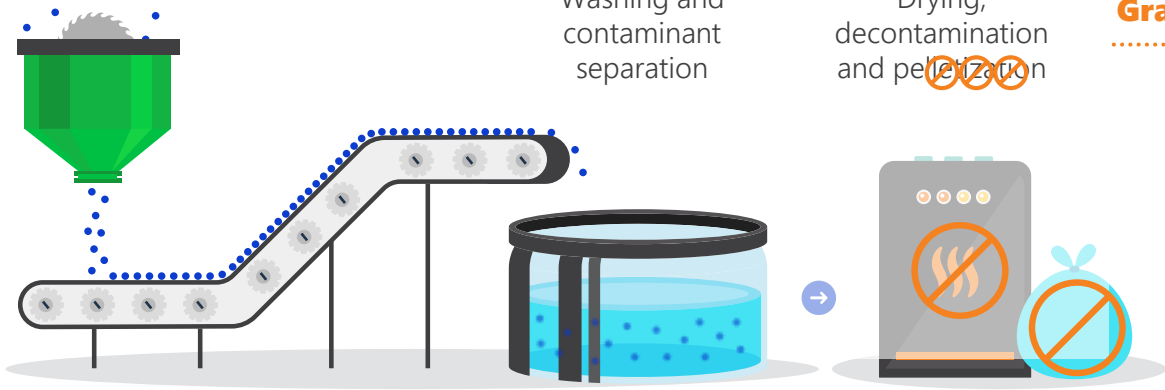


planet earth

Shredding and Granulating

Washing and contaminant separation

Drying, decontamination and pelletization



Hot, Dry, Food Grade Flakes



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GHG Emission Comparison of traditional mechanical recycling and Flake to Preform mechanical recycling

GHG Emissions per 1000 kg preforms



Recycled PET has ~40% less GHG compared to virgin PET.

Avoiding cooling, transportation, drying, and re-melting before injection molding results in lower energy usage and 20% less GHG than current recycling processes.

rPlanet preforms could result in ~60% less GHG versus virgin PET

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Enhanced rPET



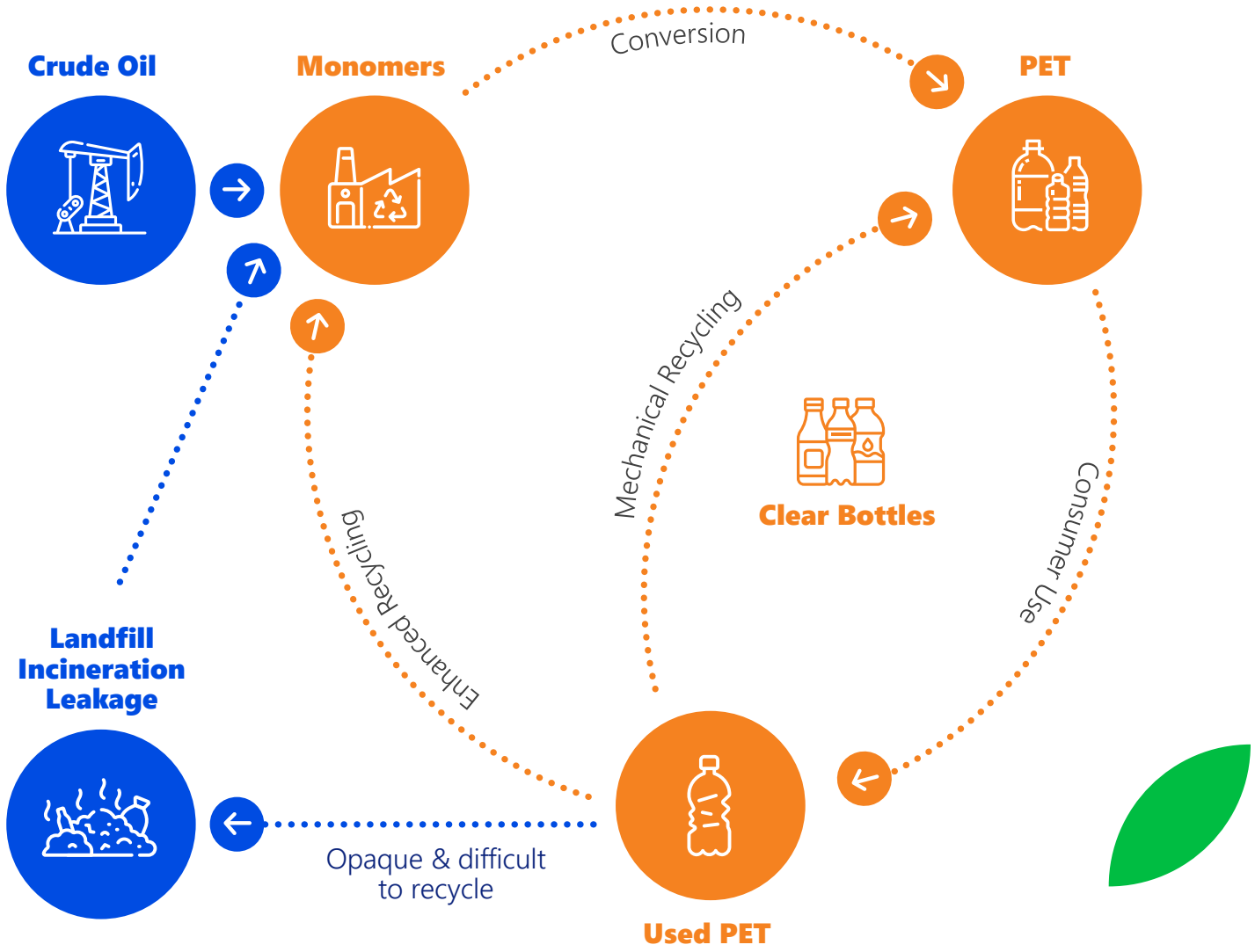
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Virgin PET, mechanical rPET and enhanced rPET process flow

Enhanced PET recycling converts PET into its feedstocks, either (1) PTA and EG, (2) DMT and EG or (3) BHET. These combinations of materials are the required to produce PET. See next slide.

These smaller molecules are easier to clean from colors, contaminants etc. and used to make virgin quality and custom rPET resins.

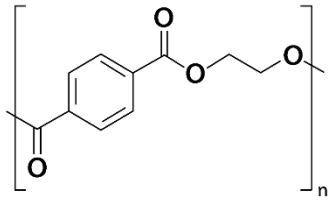
erPET is higher in GHG emissions than mechanical rPET but lower than vPET.

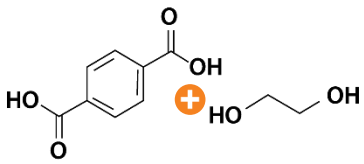
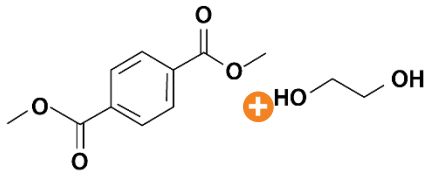
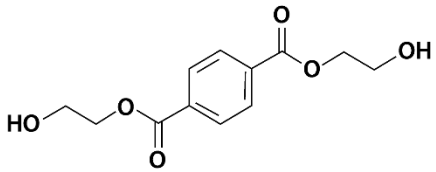
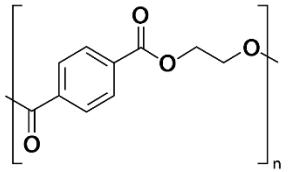


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Enhanced rPET de-polymerization options

Depolymerisation recycling pathways



	Hydrolysis	Methanolysis	Glycolysis	Partial glycolysis
	rPTA + rMEG	**rDMT + rMEG**	**rBHET**	**Pre-Polymer**
				
Developers	**10**	**7**	**25**	
Main advantages	rPTA and rMEG are drop-ins	DMT distillation is the most robust and proven purification process (helps feedstock flexibility)	Shortest loop and (theoretically) most eco/cost-efficient	
Main disadvantages	Caustic & Acid -> Salt by-product, 2 output monomers	Need to revert assets to DMT, 2 output monomers	New intermediates require new purification/ handling/logistic know how and regulatory compliance	

Courtesy of Indorama Ventures

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mrPET & erPET feedstocks are different and complementary

Mixed Waste Depolimerisation



PET Mixed Waste



Methanolysis | Glycolysis | Hydrolysis | Enzymatic

MEG

+

PTA

PET Polymerisation





Developers of Enhanced rPET Technology

Axens · EASTMAN · loop INDUSTRIES · CUMAPOL POLYESTER UPGRADING · CARBIOS Reinvent Polymers Lifecycle · GARBO your innovative partner

PET RESIN Companies

SK chemicals · INDORAMA VENTURES · EASTMAN · DAK Americas

erPET is higher quality than mrPET. It increases supply of recycled PET because erPET uses different feedstocks. PEP has partnered with Carbios, Axens and Eastman in consortia (former two) and in a commercial agreement (latter one) to gain access to thousands of tons of erPET beginning in the timeframe of 2026.

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pep+ pepsicopositive

mrPET & erPET feedstocks are different and complementary

mrPET



Those packages which a PET mechanical recycler cannot use when making rPET resin are consolidated and sold to enhanced PET recyclers, who can use these articles in their process. Some of the feedstocks (see bottom of slide) are not ever used by mechanical recyclers and are purchased by enhanced PET recyclers via separate suppliers.

erPET

Colored bottles



Strapping



Automotive



Purge



Fines



Carpet



Trays



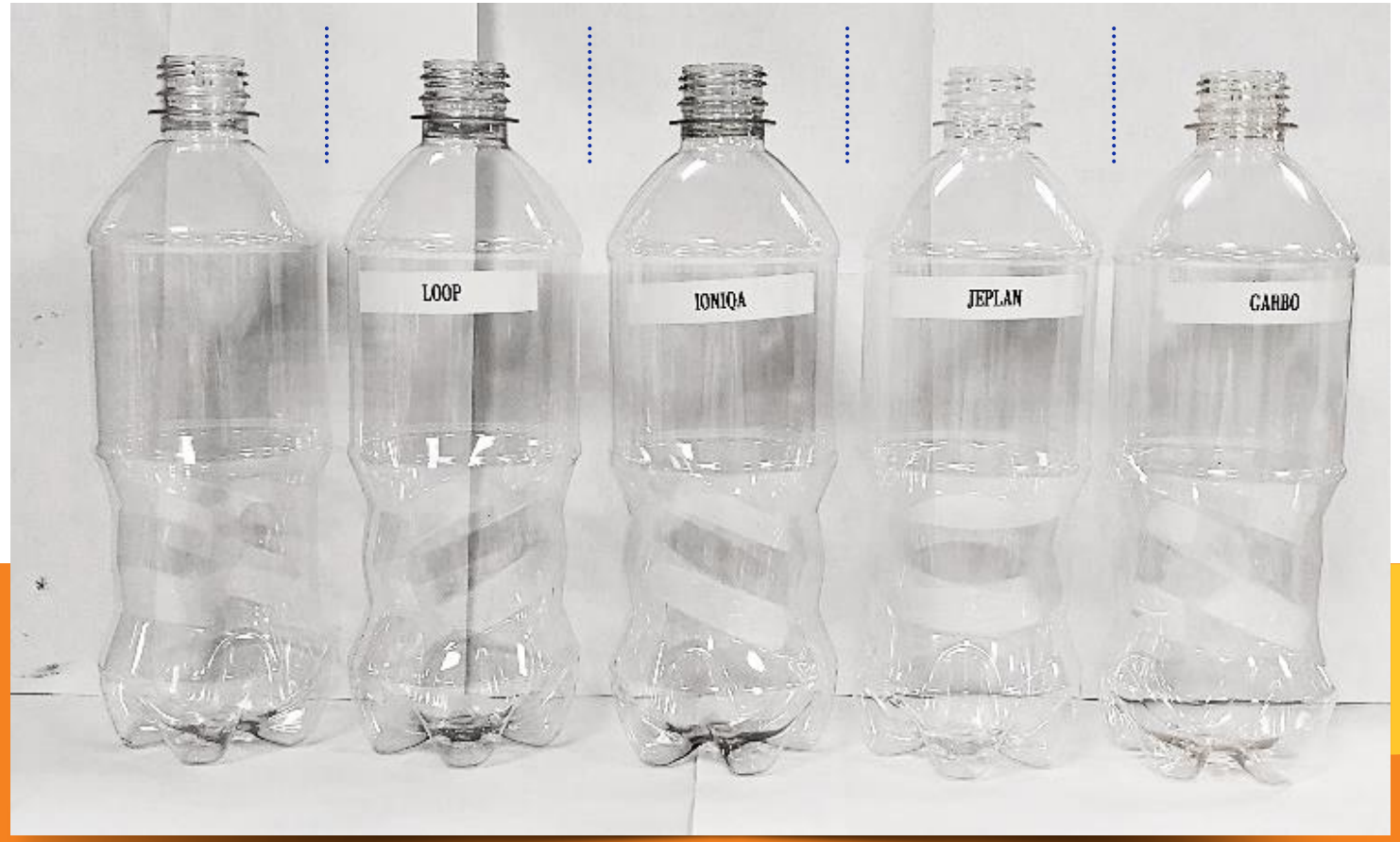
Thermoforms



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Enhanced Recycled PET – Technologies Evaluated

Virgin | loop INDUSTRIES | ioniqa | JEPLAN | CARBO



Virgin PET like quality from very challenging feedstocks.

This helps in many ways, including providing excellent aesthetics, low non-intentionally added substances and maintenance of the mechanically recycled PET resins, preventing their degradation due to too many recycling loops (melting events) which causes yellowing and darkening (greying).

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Bio PET



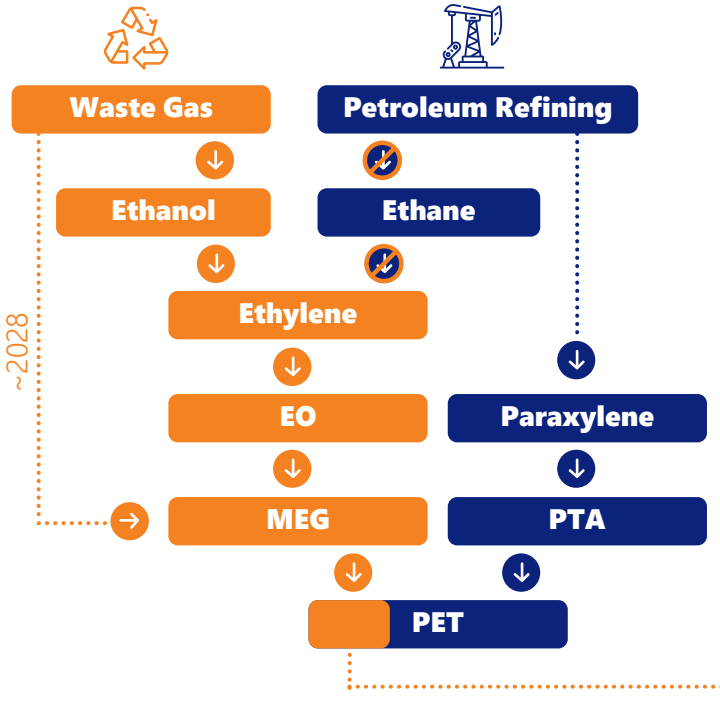
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Bio feedstock recycling options

LanzaTech offers pathways to recycled/renewable MEG for PET

Up to 10% GHG reduction on bottles with US PET

Technical performance at parity with current



Novel Gas fermentation technology captures CO-rich gases, and converts the carbon to fuels and chemicals



Control 30% CC PET

Capturing Carbon. Creating Value

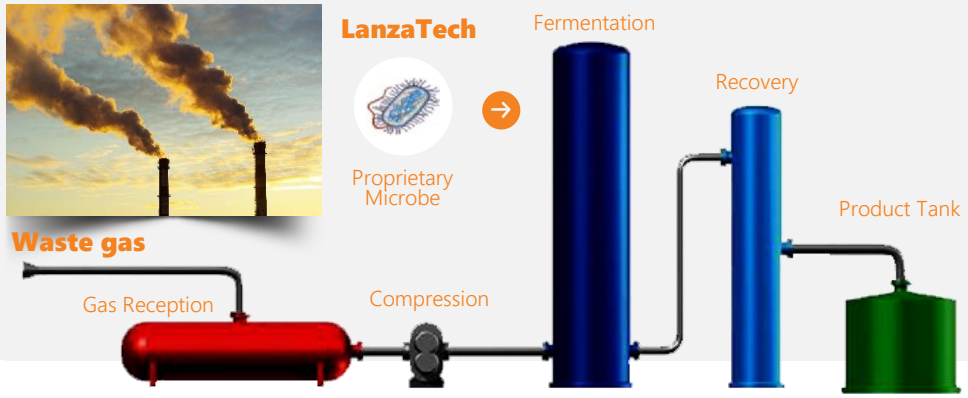


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Options for Bio PET

PTA + **MEG** = **PET**
Purified terephthalic acid | Monoethylene glycol | Poly (ethylene terephthalate) bottle resin

Step 1 - 30% Sustainable PET by replacing virgin MEG with bio/carbon capture MEG

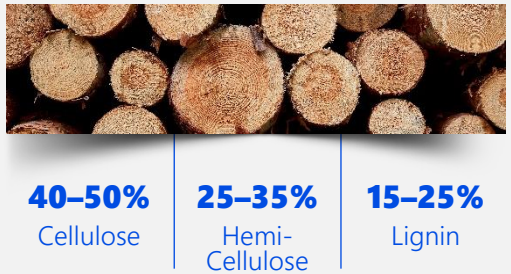


Ethanol

Ethanol is a building block for MEG. India Glycols is the ethanol to MEG partner

- **2022:** 500-1,000 tons 30% sustainable PET from carbon capture MEG
- **2022 Q4:** Pilot testing to follow in Mexico
- **2024+:** Additional MEG from UPM and other developers without India Glycols involvement
- **By 2028:** Project with LanzaTech for direct MEG from waste gas (bypassing ethanol)

Step 2 - >98% Sustainable PET by replacing virgin fossil PTA with bio-based PTA



40–50% Cellulose | **25–35%** Hemi-Cellulose | **15–25%** Lignin

Cellulose to Paraxylene (PX) by Origin Materials, UPM et al.

ORIGIN

PX converted to PTA by PET resin producers or independent PTA producers

- **By 2026:** 25kt bio-based PX available from Origin, enough for 40+ kta PET
- Other pathways to sustainable PX are under study e.g. used cooking oils or vegetable oils to naptha from Shell, ExxonMobil et al. Some of these may be available as early as 2023 (batch quantities)

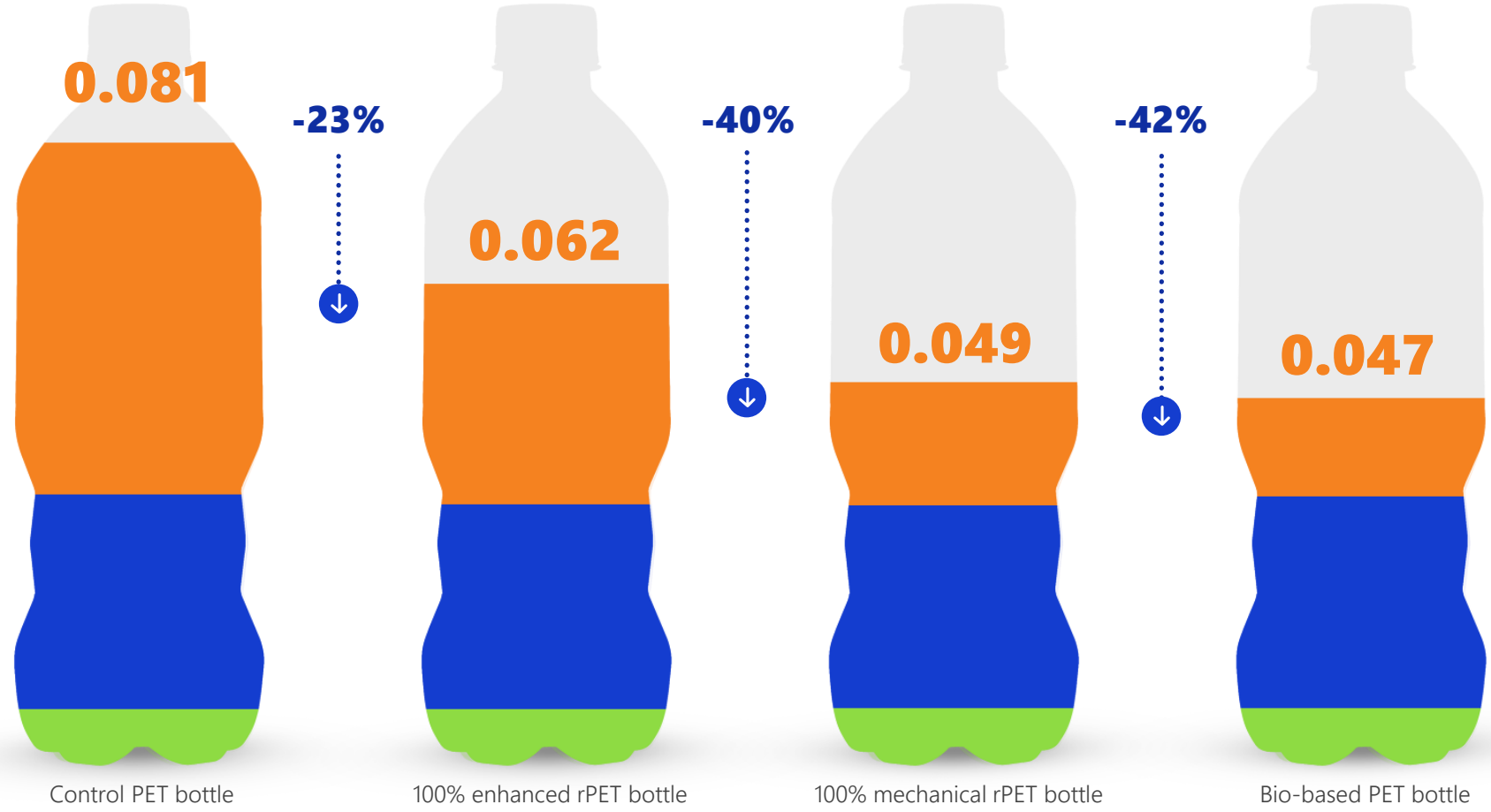
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21.5g, 20 oz. PET Bottle GHG Emission Comparison

Improvement in GHG versus Virgin PET

Global warming potential by CO2 eq.

Results for compared systems by life cycle stage



Estimates from PackET LCA tool. | One selected erPET technology shown (no credits for avoided incineration emissions). Bio-based PET based on several assumptions as product not yet available (bio-based carbon credit included) | Results are in units of kg CO2e/1 bottle

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rPET Color

- rPET color change cycles
- rPET color balancing technologies



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Multiple heat histories have an affect on bottle colors and physical properties

Laboratory multi-pass analysis | Low b* starting rPET | No washing steps | No added contaminants | Idealized and therefore best-case results



1
EU rPET SSP resin at least 2 melts Low b* color rPET (b*=-1.31)

2
100% rPET preform at least 3 melts

3
100% rPET bottle Loop 1 at least 3 melts



1
SSP resin made from rPET bottle Loop 1 at least 4 melts

2
100% rPET preform at least 5 melts

3
100% rPET bottle Loop 2 at least 5 melts



1
SSP resin made from rPET bottle Loop 2 at least 6 melts

2
100% rPET preform at least 7 melts

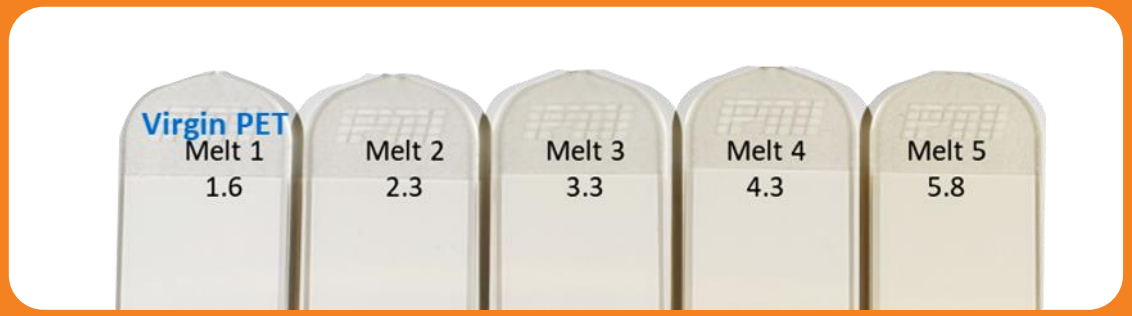
3
100% rPET bottle Loop 3 at least 7 melts

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rPET Color with high rPET content and high recycling rate







Plaque b* values with repeated drying and injection molding

High rPET content and high recycling rate with good deposit rPET

- Plaque color can get increasing more yellow and gray for 100% recycled PET
- The effect is amplified with contaminants
- The discoloration effect can be reduced by
  - Keeping recycling stream as clean as possible (ex. EU vs. Us)
  - Blending rpet with chemically recycled pet, or virgin pet
  - New technologies to treat surface contaminants to minimize color formation



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If we assume 5 melts as the average that would create too much color in rPET bottles, then high recycled content combined with high recycling rates will yield an average of 5 melts

With curbside feedstock, under real-world recycling conditions, bottle color acceptable limit may occur at 5 melt histories.

LIFE CYCLE TOTAL NUMBER OF MELTS FOR PET

Recycled Content, "r"

[One melt (preform making) for first use, two melts (pelletize and preform making) for additional uses]

Recycling Rate, "R" — Number Of Melts For Pet

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10%	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
20%	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5
30%	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.9
40%	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.3	2.3
50%	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.5	2.7	2.8	3.0
60%	2.2	2.3	2.4	2.5	2.6	2.7	2.9	3.1	3.3	3.6	4.0
65%	2.3	2.4	2.5	2.6	2.8	2.9	3.1	3.4	3.7	4.1	4.7
70%	2.4	2.5	2.6	2.8	2.9	3.2	3.4	3.7	4.2	4.8	5.7
75%	2.5	2.6	2.8	2.9	3.1	3.4	3.7	4.2	4.8	5.6	7.0
80%	2.6	2.7	2.9	3.1	3.4	3.7	4.1	4.6	5.4	6.7	9.0
85%	2.7	2.9	3.0	3.3	3.6	4.0	4.5	5.2	6.3	8.2	12.3
90%	2.8	3.0	3.2	3.5	3.8	4.3	4.9	5.9	7.4	10.5	19.0
100%	3.0	3.2	3.5	3.9	4.3	5.0	6.0	7.7	11.0	21.0	1.0E+06

Table courtesy of David Cornell. Estimates from PackET LCA tool. | One selected erPET technology shown (no credits for avoided incineration emissions). Bio-based PET based on several assumptions as product not yet available (bio-based carbon credit included) | Results are in units of kg CO2e/1 bottle

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If we assume 5 melts is the limiting number of melts, then high quality PET will be needed to maintain bottle color when recycled content is high and recycling rates exceed 70%

To minimize bottle color in countries with closed loop recycling and high recycling rates, either:

#01 Maintain rPET content at ~75%, or

#02 Introduce enhanced rPET (or bio based-PET) in the balance of the portfolio

AMOUNT OF RECYCLED CONTENT TO BE PROVIDED BY ENHANCED RECYCLED PET [MAKEUP

Recycling Rate, "R"	Recycled Content, "r"										
	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
60%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
65%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
70%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%
75%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	29%
80%	0%	0%	0%	0%	0%	0%	0%	0%	8%	26%	44%
85%	0%	0%	0%	0%	0%	0%	0%	4%	21%	39%	59%
90%	0%	0%	0%	0%	0%	0%	0%	15%	33%	52%	74%
100%	0%	0%	0%	0%	0%	0%	17%	35%	55%	76%	100%

Table courtesy of David Cornell

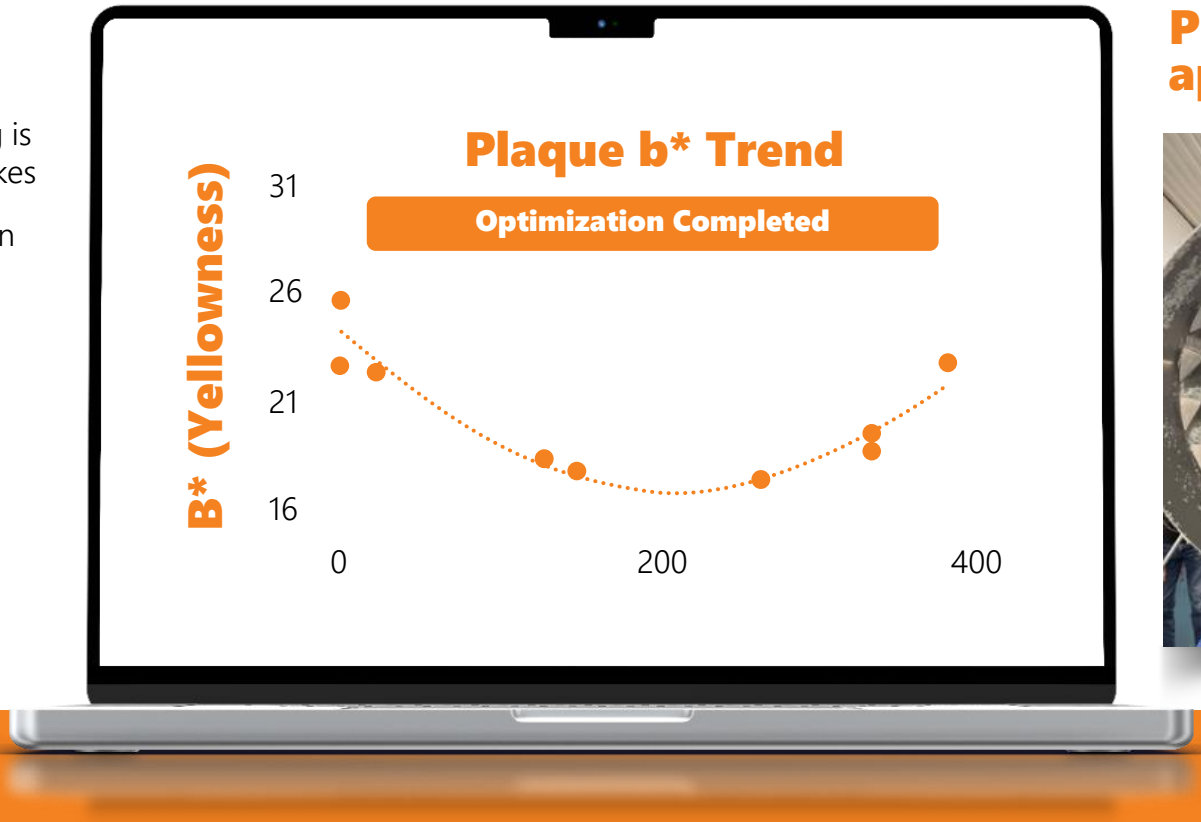
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rPET Color: Progress made in collaboration with Avient and Container Science

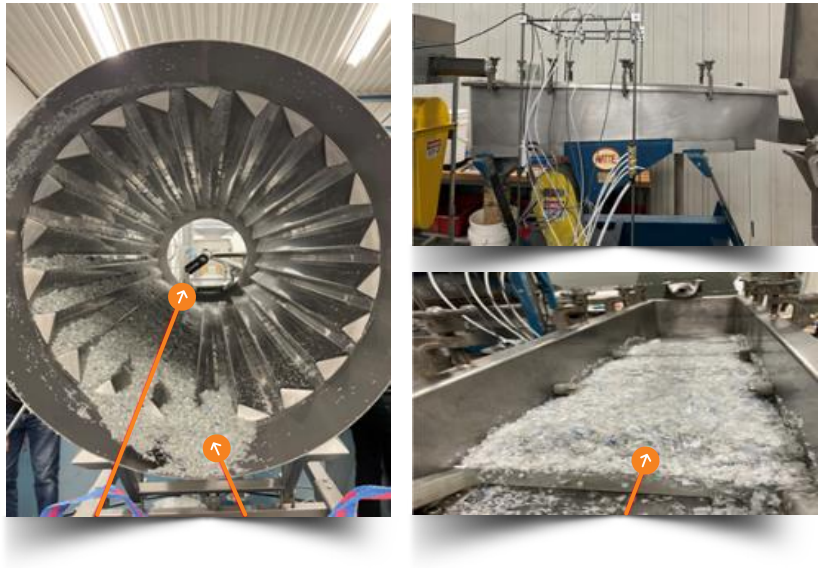
- Demonstrated a major source of rPET yellowing is PPM iron in PCR PET flakes
- Showed that additive can give big reduction

25-50% color reduction with optimal additive treatment

AVIENT Container Science



Pilot trials to test additive application methods



Unlocking mrPET quality & supply through additive treatment of mrPET flakes

- rPET discolors upon melting, becoming significant in a circular economy for bottles
- A color former in rPET is iron, a known color former & found in postconsumer flakes
- Flake additive treatment of rPET flakes significantly reduces color & NIAS



AVIENT

Container Science

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pep+ pepsicopositive

Conclusions

Many pathways to recycled plastics are emerging

Attention must be paid to purification

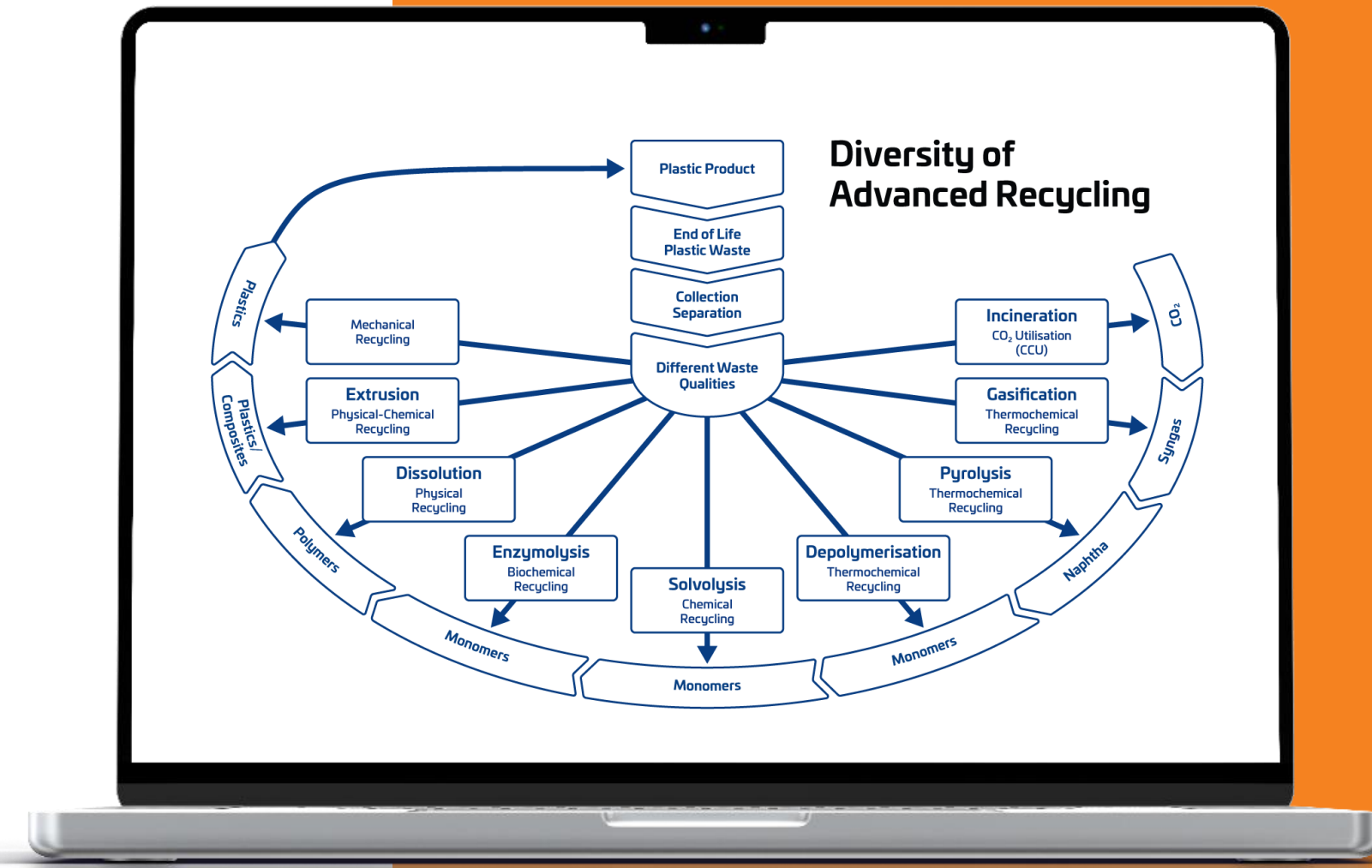
erPET is Higher quality vs. mrPET

In case of erPET, carbon footprint > mrPET but < vPET

Recycled PET comes at price premiums vs. vPET

R&D S&T & GP collaborating to bring large volumes by 2025+

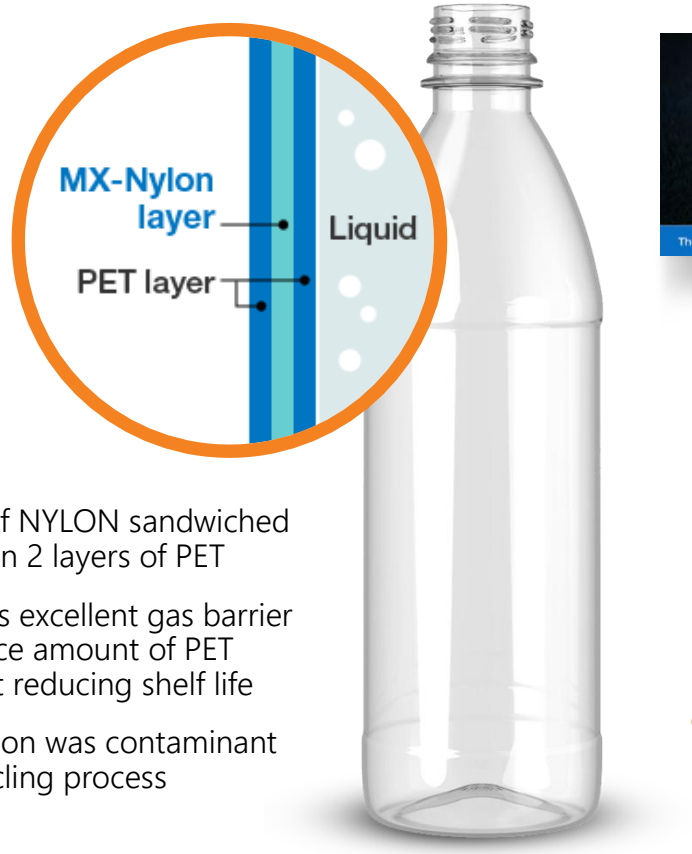
Partnership with Brand, GP, SO, R&D commercialization teams essential



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Another way to reduce plastic in the system – multilayer technology

What is multilayer?



- Layer of NYLON sandwiched between 2 layers of PET
- Nylon is excellent gas barrier > reduce amount of PET without reducing shelf life
- But Nylon was contaminant in recycling process

Why is it now recyclable?

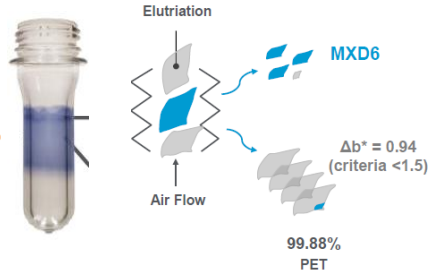


Multi-layered PET bottle made with Husky® HPP5Multi-Layer Systems and using 2.5% or less of MGCMX Nylon M6007D™ placed specifically in the sidewall with avoidance in the neck finish and base

- HUSKY new multilayer received recycling recognition from American Plastics Recyclers (APR)

But there are conditions to being recyclable

Up to 2.5% MX Nylon M6007D™



- Low amount of nylon (≤ 2.5%)
- Precision placement (only in body sidewall, not neck/base)
- Must separate cleanly from PET
- Recyclers MUST have process for separating particles (air elutriation)

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rPET Approval Process



Documentation
#01

Sensory and Audit
#02

Development (datapack)
#03

LPR Transport test
#04

CQV
#05

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rPET Challenges and Actions

rPET Challenges	IV	AA	Black Specks	Color
Challenge	**Low IV values**	**Yellow/black pellets**	**Increases the amount of AA**	No particles greater than 0.8 mm are permitted. No more than 4 particles of any size, visible to the unaided eye, are permitted	Low a* : antiyellow or excess of green bottles Yellow pellets Gray
Improvement	**Increase Temperature and Time in the SSP.**		**To check extrusion filters according rPET content. i.e:** For 100%> x >50% PCR: 32 microns (400mesh) minimum	Ratio balance of green bottles feeding Indicate too high temperature during residence time Indicates poor material classification

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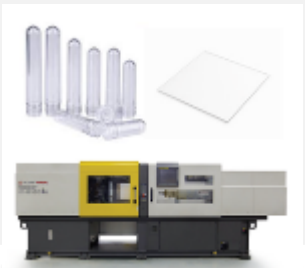
Accelerating resin validation process

Hybrid Process:

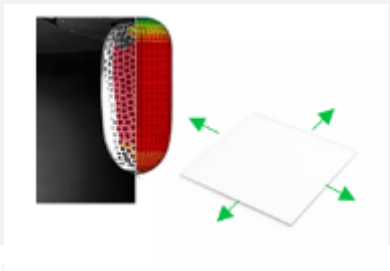
Candidate Resin from Supplier



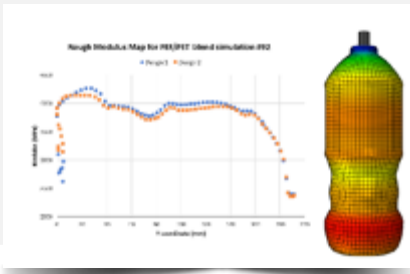
Injection Mold Preforms and Plaques 60 each



Bi-Axial Stretch and Instrumented Free Blow Testing to Build Material Model



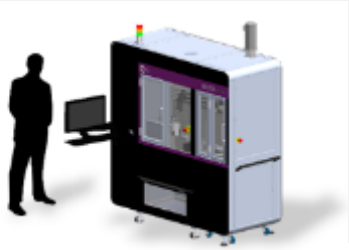
FEA and Comparison with Virgin PET Data pack



Blow Recipe And Spec Sheet

Blow Recipe And Spec Sheet

Advanced Rapid Prototyping





LEVEL 1 VALIDATION

Lab testing Samples and Data pack build



Qualification



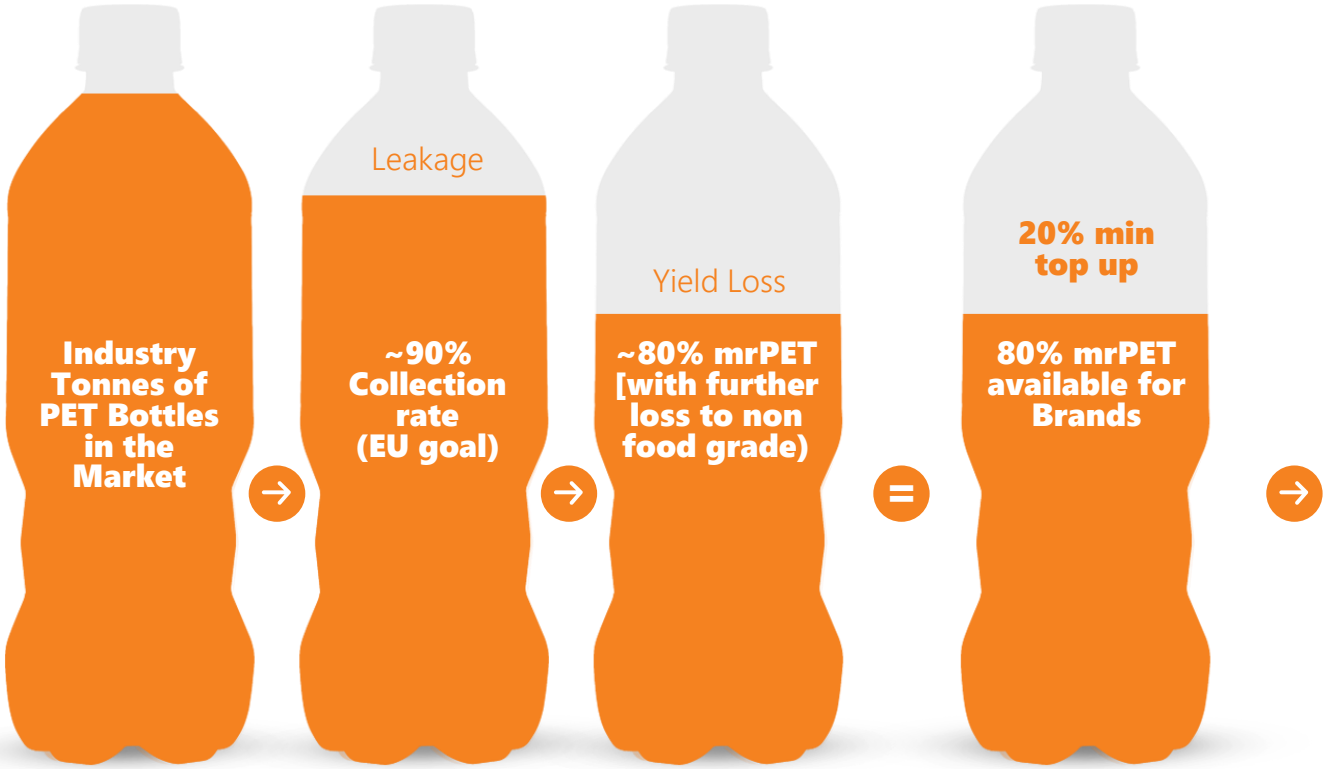
LEVEL 2 VALIDATION

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Sourcing strategy to “top up” mrPET supply in place

Natural losses in the chain will mean a top-up to mrPET is needed

BEVS INDUSTRY POSITION - NOT JUST PEP



Simplified rPET evolution (+/- x%)

	2022	2023-2026	2026+
mrPET	100%	80%	75%
erPET	Secure supply	20%	5%
Renewable PET	Demo	Launch and scale	20%

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Bottles made of recycled plastic can open a whole new chapter of relationships with our key customers. Which will enable them customers to support work on their own sustainability goals. It also allows us and to unlock commercial value; through sales execution, price pack architecture or collaboration with other sustainability goals, like sugar reduction or Green House Gas emissions.



Key business question to answer for the team

Diagnostic

How does rPET feed into key customers sustainability agenda?

Which customers are more advanced in it and which ones need to be educated?

What are our competitors doing in terms of activations with Customers of Sustainability agenda?

Action Plan Development

How can rPET unlock value?

(Market share, sales execution, NRR, etc.)

How can rPET support broader Beverages Strategy on the market?

(No Sugar, Energy, Hydration, AFH, eCommerce, etc.)

Is there an opportunity to disrupt with rPET with the right marketing/ positioning?

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Key steps to consider while to unlock value of a 100% rPET bottle

01



Build credibility with customers, industry bodies, consumer groups (understand their agenda, needs)

02



Explore agenda synergies with customers

03



Bundle benefits (bottle design, claims, communication, rPET messaging, etc.)

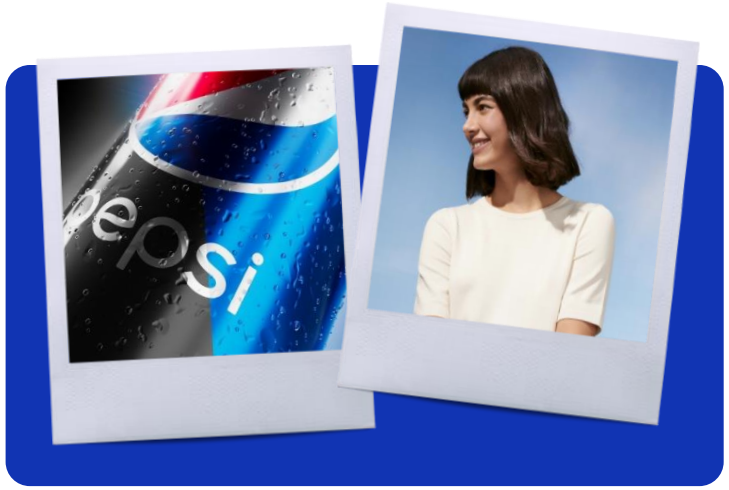
04



Leverage first mover advantage (where applicable)

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From the initial 100% rPET market launches we saw 3 pockets of value







Market share & equity growth

Increased channel presence & customer satisfaction

Smart PPA and pricing and resulting NRR

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Best Practices



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Market case:
Lipton 100% rPET in France

Business Objectives

Increase penetration (+1pps) & share (+1pps) to conquer undisputable #2 Soft Drink position.



2020

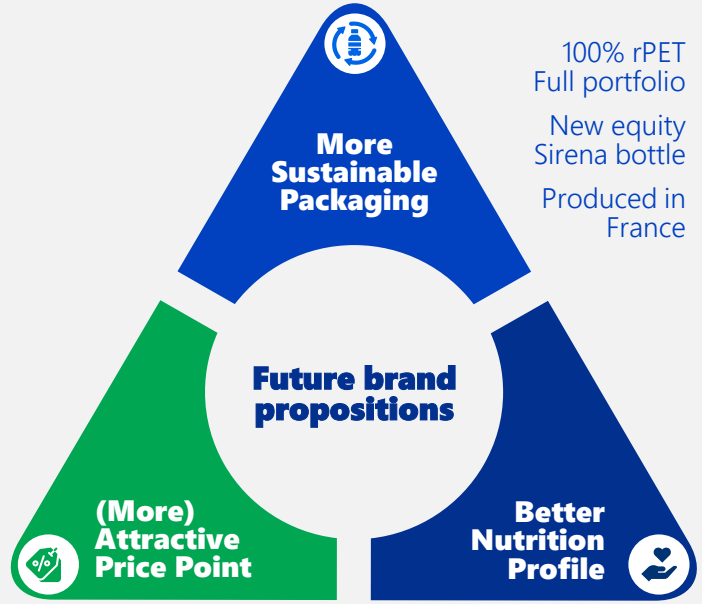
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

Market Context

Consumer	**Embedded:** Sustainability has become an expectation of brands
Volume Lipton	63,5 MM 8oz Cases
SOM (vol.)	51.6 %
CBS	Stronghold
A&M (pull& push)	3.2 MM €

Brand proposition

Leverage rPET & recycling to engage GEN Z



100% rPET
Full portfolio

New equity
Sirena bottle

Produced in
France

Reduced sugar
Rain forest alliance
Certified tea

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Engaging communication journey "made by consumers, for consumers"

MARCH-APRIL 20 | **2020** | **JUNE-OCTOBER 20**

#1: BIG ANNOUNCE

PR

15 releases
900K contacts



Mar
Apr
Jun
Jul
Aug
Sep
Oct

#2: LEVERAGE MASSIVELY ATL & BTL

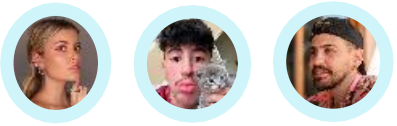
MEDIA



#3: ENGAGE GEN Z

INFLUENCERS RECYCLING CAMPAIGN:

25MM reach



YouTube TikTok Instagram

IN-STORE VISIBILITY & ACTIVATION



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A program resulting in record SOM and welcomed by both consumers and KOLs

POCKETS OF VALUE VALUE CREATION

Equity and penetration growth

+2.5pp
Brand Power score
(Kantar '20 vs '19)

+0.5pp
Penetration
(Kantar MAT T3 '20 vs 19)

Share of market growth

+3.6pp
Val SOM
Nielsen YTD P9 20' vs 19

Smart PPA to drive NRR

+0.8pp*
NRR
(coming from -1.5 pp)







* Lipton P&L NRR 20 vs 19

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Market case:
Pepsi 100% rPET in Spain

Business Objectives

Double SOM in 5 years with an asymmetric strategic play vs KO.



2020

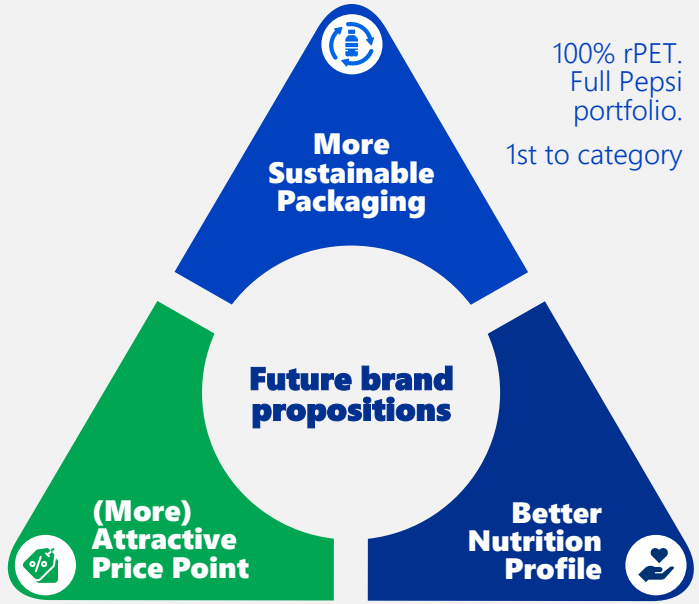
- Jan
- Feb
- Mar
- Apr
- May
- **Jun**
- Jul
- Aug
- Sep
- Oct
- Nov
- Dec

Market Context

Consumer	**Engaged:** increasingly actively seeking sustainable brands
Volume Pepsi	32,5 MM 8OZ Cases
SOM (vol.)	8.1 %/ 6.5%
CBS	Challenger
A&M (pull& push)	4.1 MM €

Brand proposition

Leverage rPET as a lever to drive distinction



100% rPET. Full Pepsi portfolio.

1st to category

Reviewed Pack Price Architecture - downsize & Hot price points

Non sugar focus

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100% rPET used as a Net Revenue Management lever

USED 100% RPET AS A LEVER TO DRIVE PRICE

FROM





TO





	2 L	1.25 L	1.75 L	1 L
RSP	1.46€	1.08€	1.46€	1.10€
€/L	0.73	0.86	0.83	1.10
gap vs. KO (€)	0.34	0.30	0.34	0.28
Ix vs. KO	81	78	81	80
Ix vs KO €/L	81	78	**92 (+9pp)**	**100**

PLUS intensive promo at HPP 1€

MAIN ASSUMPTIONS/FINDINGS:

Disrupt Coke with new formats at hot price points

Increase Price/Ltr through downsizing

This pricing strategy has just been implemented in July

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Spain activated a 360 campaign to celebrate the 100% recycled bottle



20" TVC



PR/EARNED
MEDIA DRIVERS



OOH

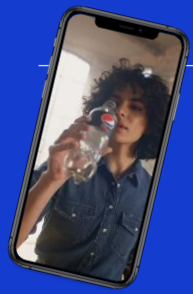


AD

IN STORE



DIGITAL



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4 months results post launch

POCKETS OF VALUE VALUE CREATION

Increased channel presence

+1,600
New TT Customers

+3,600
New Coolers

+1,400
Extra Displays in OT

Share of market growth

+3.6pp
Val. SOM
traditional trade

Source: Pepsi TM, Internal tracking Oct 2021 ytd. OT - 0.1 Nielsen Oct 2021 ytd

Smart PPA to drive NRR

+2%
NRR







* Lipton P&L NRR 20 vs 19

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Market case: Germany 100% rPET : plan

Business Objectives

Double the business by 2023 - Break the cola autopilot & become the choice of the new generation.



2020

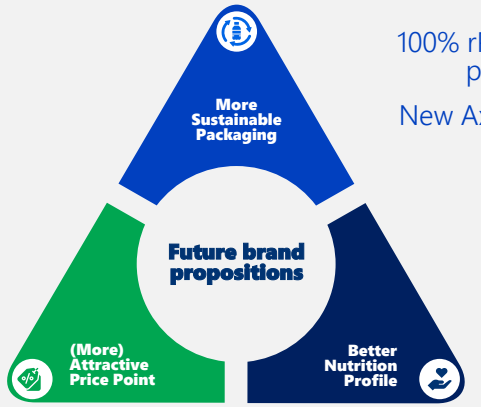
- Jan
- Feb
- Mar
- Apr
- May
- Jun
- Jul
- Aug
- **Sep**
- Oct
- Nov
- Dec

Market Context

Consumer	**Engaged:** Sustainability have become an expectation of brands
Volume Pepsi	267 MM / 8OZ Cases
SOM (vol.)	12.6%
CBS	Challenger
A&M	5 MM €

Brand proposition

Leverage rPET to engage galvanizers and break the autopilot



100% rPET. Full portfolio.

New Axl bottle

Market Context

Non sugar penetration growth — Non sugar MIX **+ 1 pp** vs PY

Absolute Pricing that leads to superior NRR vs previous year — NRR 2021 vs 2020 = 7.5 pp

Source: Internal 2020& 2021 Germany P&L algo

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AXL & 100% rPET used as a lever to close price gap vs KO

AXL & 100% rPET INTRODUCTION AS A LEVER TO DRIVE PRICE

FROM



TO



	FROM 1.5 L	FROM 0.5 L	TO 1.5 L	TO 0.5 L
RSP (RPP)	0.99€ (0.59€*)	0.59€	0.99€ (0.69€)	0.79€
€/L	0.66€ (0.39€)	1.18€	0.66€ (0.46€)	1.58€
gap vs. KO (€)	0.40€ (0.40€)	0.40€	0.40€ (0.30€)	0.20
Ix vs KO €/L	71 (60)	60	71 (70)	80

MAIN ASSUMPTIONS/FINDINGS:

Drive premiumization agenda and stepwise closing the price gap to KO

Increase 1.5l RPP +0.10€ (+0.20€ in hard-discount) & 0.5L RSP +0.20€

This pricing strategy has just been implemented in July

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360-campaign supported the launch



20″ TVC



PR/EARNED
MEDIA DRIVERS



IN STORE



DIGITAL



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rPET drives engagement and reward consumers for their recycling efforts. The intensity of communication might differ between markets depending on how ready our consumers are for recycled plastic content.
Drive Acceptance
Educate Recycling Habits
CONSUMER
COLLECTION
Create the Infrastructure
CONVERSION
Secure the Bale
Convert to rPET flake
INCLUSION
Convert rPET flake to preform
CUSTOMER
Commercialize Bottle
Unlock value
5C
to Circularity

Key business question to answer for the team

Diagnostic



What is the level of consumer readiness/acceptance of rPET in beverages?



What are the key concerns consumers have against it?



What are the most open / demanding consumer cohorts from sustainability perspective?

Action Plan Development



How should we address consumer concerns around rPET?



What is the best way to communicate recycled plastic for beverages?



How does pep+ agenda fit with the brand positioning and communication strategy?

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rPET: Key Global consumer learnings

Consumer knowledge

Consumers have a good understanding of what Recycled Plastic is

Benefits (spontaneous)

- Environmentally friendly (20%)
- Packaging can be recycled again (15%)
- Reduces landfill waste (10%)

Concerns (Spontaneous)

- Some concerns on taste
- Not safe for food/beverages (5%)

82% Global average

Consumer attitudes

The idea of recycled plastic packaging for beverages is appealing in most markets, though lower in AMESA

Positive impact on Brand perceptions

Caring for the environment, modern, innovative, trusted.

Potential to increase intention to buy

Majority is more likely to purchase the brand with rPET packaging

But not worth to pay more

35-50 % are not ready to pay more

Specific leanings

Specific executions and claims have different consumer feedback in different markets

100% is a magic number

Consumers are confused by lower percentages in Recycled plastic, e.g. 50%

Claims are not really noticed

Only 5-20% of consumers pay attention to the claims

Different claims work well in markets

Protecting the environment resonates well in LATAM, while in APAC consumers need safety reassurance

Bottle color change is a watch out

rPET bottles darker color may raise consumer concerns if noticed

Implications

rPET launch needs consumer validation in key markets with high level of concerns

Bottles color deterioration needs to be tested with consumers for big brands in key markets

to understand if consumers notice the color change and if they accept it with and without communication

Communicate only when 100%, make sure consumers are positive

create "big bang" in media and on pack to be noticed, uses first mover advantage where possible

Use locally relevant claims

Different level of knowledge and variety of attitudes require different approaches to messaging

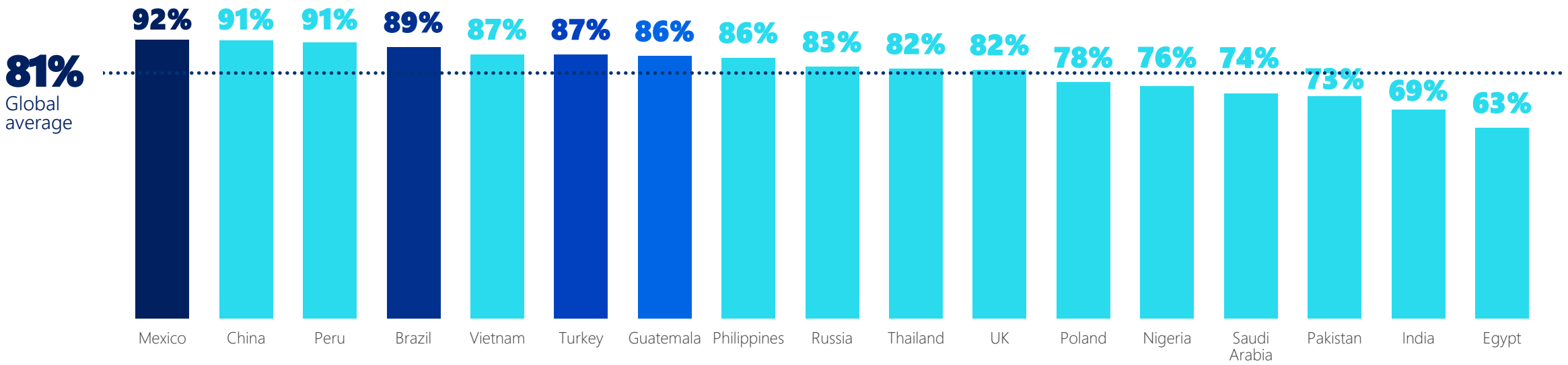
Source: Compilation of multiple consumer studies of 2019-2022

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Recycled Plastic Packaging Understanding

Open markets are all above average on understanding of rPET, with Mexico leading the group

(Aided) Define Recycled Plastic as: Recycled plastic is produced from cleaned, shredded and melted previously used plastic packaging



Unaided

> A container that was made from other containers, they reused it while obviously cleaning everything.
>
> **Male, 24**

> Instead of the product polluting the environment, it is recycled and can be reused by us.
>
> **Male, 20**

> Reduce pollution by recycling and reproducing plastic products that are harmful to nature and the environment.
>
> **Male, 24**

> Are products manufactured by already used plastic containers that are recycled to give rise to new ones and thus minimize the unnecessary environmental impact.
>
> **Male, 39**

Question: Which of the following do you believe to be the most accurate definition of recycled plastic? // Open End: Imagine this person is asking a friend what recycled plastic packaging is. What are they saying? How would they define this packaging? Base: n=3118 GenPop , n~160 per market (240N Mexico includes additional fielding)

Source: Sonic 2.0, Buzzback rPET consumer understanding

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3 consumer cluster based on attitudes and involvement to environmental and plastic issues

ESTABLISHED MARKETS

People are actively recycling and **expect recyclable credentials from brands.** Due to this, people might be exploring/evolving into other options outside recycling i.e. plastics reduction/replace.



TRANSITIONING MARKETS

People are worried about plastic issues but are only starting to act. **Consumers will seek to amend their purchasing behaviour where there is no sacrifice required.** Recycling is still a challenge due to the country's infrastructure.



NASCENT MARKETS

People are not worried about plastic and not often engaging in recycling. **Purchase decisions are driven by wants, & basic needs, not plastic issues.** In these markets Government structure is almost non-existent.



Source: Wood Mackenzie, Sonic 2.0, Buzzback rPET consumer understanding

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Acceptance:

How likely you would be to purchase each product if it came in recycled plastic packaging?

Swipe right (would purchase)	(3118)	(227)	(183)	(150)	(150)	(153)	(197)	(169)	(156)	(237)	(156)	(158)	(152)	(148)	(241)	(182)	(179)	(280)
Bottled Water	84%	86%	85%	86%	92%	76%	89%	94%	88%	94%	89%	86%	86%	73%	81%	65%	83%	79%
Carbonated soft drinks	80%	81%	81%	84%	82%	77%	78%	93%	88%	90%	86%	82%	83%	67%	81%	64%	80%	69%
Milk	79%	79%	72%	66%	89%	80%	85%	93%	83%	83%	84%	80%	75%	66%	78%	60%	83%	80%
Packaged Juice	80%	74%	74%	77%	86%	76%	85%	93%	85%	90%	83%	83%	82%	71%	82%	63%	87%	77%
Energy Drinks	75%	79%	74%	66%	69%	67%	84%	86%	74%	85%	86%	78%	74%	61%	81%	56%	68%	74%
Sport Drinks	76%	79%	81%	67%	86%	72%	83%	83%	81%	87%	85%	77%	80%	62%	79%	54%	66%	66%
Snacks	80%	80%	74%	74%	83%	86%	85%	92%	85%	87%	86%	80%	74%	78%	73%	66%	86%	80%
Chocolate	78%	83%	71%	60%	83%	82%	82%	91%	81%	81%	84%	77%	74%	72%	76%	59%	83%	79%
Cleaning products	90%	87%	89%	97%	92%	91%	92%	96%	92%	95%	96%	93%	92%	82%	83%	85%	91%	86%
Personal care products	86%	84%	89%	87%	91%	88%	90%	94%	92%	92%	90%	87%	88%	68%	82%	74%	88%	80%
Frozen meals	74%	70%	65%	84%	82%	82%	83%	86%	78%	78%	86%	74%	73%	63%	68%	59%	80%	58%
Baby food	61%	71%	51%	49%	55%	51%	71%	67%	60%	65%	63%	67%	61%	56%	62%	42%	62%	65%
Pet food	78%	74%	87%	88%	82%	78%	86%	80%	85%	88%	89%	87%	86%	65%	67%	68%	72%	66%
Microwave food	59%	53%	42%	60%	65%	56%	70%	86%	64%	57%	74%	62%	55%	50%	50%	40%	70%	53%
Hot beverages	62%	65%	51%	52%	71%	60%	76%	80%	67%	62%	67%	73%	63%	50%	48%	47%	71%	61%

*i.e., potato chips, crackers, pretzels, etc. | Source: Sonic 2.0, Buzzback rPET consumer understanding

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Benefits:

And which of the following, if any, are benefits of purchasing beverages in 100% recycled plastic packaging?

	(3118)	(227)	(183)	(150)	(150)	(153)	(197)	(169)	(156)	(237)	(156)	(158)	(152)	(148)	(241)	(182)	(179)	(280)
It helps to limit plastic waste	62%	66%	60%	62%	76%	79%	54%	70%	56%	65%	67%	68%	64%	51%	67%	51%	56%	54%
Less potential waste to end up in the oceans	60%	65%	67%	60%	69%	73%	55%	63%	57%	62%	76%	65%	70%	45%	59%	46%	46%	46%
I feel good about helping to protect the environment	58%	61%	63%	41%	61%	68%	54%	61%	55%	64%	72%	70%	62%	55%	63%	48%	46%	50%
Less plastic goes not go to the landfill	56%	50%	62%	63%	63%	69%	49%	70%	57%	62%	70%	66%	64%	43%	41%	50%	51%	43%
Is good for future generations	54%	56%	58%	41%	56%	69%	43%	64%	53%	59%	71%	67%	59%	50%	46%	36%	37%	55%
It helps to prevent global warming	53%	54%	66%	28%	65%	67%	48%	53%	39%	58%	63%	65%	58%	53%	52%	37%	41%	49%
It helps to reduce greenhouse gas emissions	49%	57%	55%	33%	59%	69%	49%	48%	38%	49%	61%	54%	47%	46%	50%	31%	37%	46%
It is made by a brand that shares my values	31%	27%	32%	20%	30%	50%	37%	37%	25%	33%	42%	34%	34%	30%	30%	21%	24%	31%
Is a high quality product	30%	30%	26%	16%	33%	42%	31%	30%	23%	31%	44%	37%	24%	36%	24%	24%	31%	29%
None of the above	2%	0%	2%	8%	1%	0%	1%	4%	4%	1%	1%	0%	2%	1%	3%	9%	3%	2%

*i.e., potato chips, crackers, pretzels, etc. | Source: Sonic 2.0, Buzzback rPET consumer understanding

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Barriers To Purchase:

Which, if any, of the following are reasons why you may not consider purchasing beverages that come in 100% recycled plastic packaging?

	(3118)	(227)	(183)	(150)	(150)	(153)	(197)	(169)	(156)	(237)	(156)	(158)	(152)	(148)	(241)	(182)	(179)	(280)
Worried about if it is hygienic	35%	45%	38%	31%	35%	40%	34%	18%	18%	32%	24%	38%	33%	35%	40%	51%	34%	39%
Worried about how safe it is	35%	46%	36%	43%	44%	44%	41%	22%	19%	24%	19%	30%	24%	39%	38%	45%	30%	42%
Not knowing where the source of the plastic came from	32%	51%	27%	34%	28%	31%	29%	19%	20%	25%	26%	33%	23%	32%	34%	47%	30%	37%
Concerned over quality of the product	29%	37%	37%	23%	33%	41%	29%	17%	15%	23%	22%	25%	32%	34%	34%	39%	23%	31%
Costs too much	29%	39%	34%	21%	37%	20%	28%	40%	26%	33%	27%	21%	32%	26%	27%	20%	32%	26%
Worried about the taste	24%	27%	24%	11%	20%	41%	25%	21%	15%	22%	18%	16%	20%	36%	23%	32%	21%	26%
Not sold everywhere I shop for beverages	22%	25%	33%	19%	17%	18%	21%	18%	19%	25%	27%	20%	35%	26%	18%	19%	18%	24%
Might not last as long on the shelf	18%	17%	22%	13%	34%	14%	16%	11%	10%	14%	7%	18%	20%	19%	23%	17%	18%	23%
Don't like how it looks	10%	8%	11%	5%	11%	7%	11%	4%	6%	5%	13%	9%	11%	9%	11%	16%	13%	12%
Nothing would make me not purchase	14%	2%	5%	19%	17%	12%	12%	27%	28%	17%	26%	26%	10%	5%	15%	8%	12%	13%

*i.e., potato chips, crackers, pretzels, etc. | Source: Sonic 2.0, Buzzback rPET consumer understanding

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Best Practices



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Always an Opportunity to Whisper or Shout, depending on market readiness



Nascent Markets

- Intensity
- **Soft Messaging**



Transition Markets

- Intensity
- **Hero on-pack**



Established Markets

- Intensity
- **360 Supported**







THANK YOU FOR YOUR CONTRIBUTION

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Hassaan Zafar
Jamie MacKay
Jonathan Sullivan
Karl Tyndall
Kurt Frenier
Marco Johnston
Mark Baxter
Natalia Castro
Ron Khan
Sabine Selos
Sherif Eskandar
Tatiana Repina
Tatiana Feged Rivadeneira
Will Villiers-Tuthill
Yerik Rod
Yuliya Kaspina

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APPENDIX

- List of key functional experts
- Available materials and resources
- Prework list
- Templates

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Key functional experts

Sustainability

Global Team
- Lauren Cottler
- Mark Baxter
- Jeff Halvorson
- Isabel Moore

Europe Team
- Mark Allen
- Clair Write

APAC Team
- Jade Zhu

AMESA Team
- Ritu Shome
- Sara Naeem

LATAM Team
- Enrique Cortinas
- Ernesto Guzman-Valdez
- Vega Carolina

PPGA

Global Team
- Anke Boykin

Europe Team
- Gloria Gabellini

APAC Team
- Busba Wongnapapisan

AMESA Team
- Meghna Laxman

LATAM Team
- Alina Hernandez

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- Pat Finlay
- Julie Zaniewski
- Matt McNichols
- Anup Joshi
- Ed Socci
- Clarence Sequeira
- Kamal Mahajan
- Balakrishan Maddi
- Adnan Gul

Franchise

International Team
- Jamie MacKay
- Tatiana Repina
- Fabienne Giret
- Sabine Selos

Category

International Team
- Kurt Frenier
- Kate Shally
- Karl Tyndall

Sustainability Strategy team

Global Team
- Marianne Ross
- David Barahona
- Jonathan Sullivan
- Andrew Wood

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Available materials resources

- Plastics Policy Playbook Oct'22 – Ada
- Insights and Consumer Studies - Ada
- PEP U Degreed: International Beverages pep+ Franchise Capability Learning Plan
- Markets Collection rates data (Wood Mackenzie) – can be provided by Procurement or Sustainability Strategy team
- 3-Layer Funding model – Ada & Degreed
- *More material to come*
- Bottler Readiness Assessment Template - Ada
- Best Practice Forums materials – Ada & Degreed
- *More material to come*

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Pre-work to be done for preparation to 5C Workshop

Collect all available information to assess the answer diagnostic questions

Consumer

What % of population is concerned about waste issues? Do they know why recycling is important?

What do my consumers know about recycling? Do they know what/ when/where/how can be recycled?

What % of population recycles plastic on a regular basis?

What education is happening on a national level/industry/institutions level around recycling?

Collection

What is the current PET collection rate on the market?

What is the current infrastructure for collection and recycling of PET on the market?

What are the key bottlenecks/losses causes for collection?

What is the current legislation on recycling? What are the anticipated changes in it?

What are our competitors doing to improve collection?

Conversion

How does the conversion value chain looks like?

What are the bottle-necks? Yield losses?

How much is downcycled and why?

What is KO/other competitors do to drive conversion?

Who are the key suppliers of rPET? Are they certified in line with PepsiCo standards?

What are the current premiums on rPET on the market and what are the drivers behind their dynamic?

InClusion

What types of PET are available on the market?

Can lightweighting technology be leveraged to reduce required plastic and optimize costs?

Are their suppliers certified inline with PepsiCo standards?

What is an rPET supplier certification process in PepsiCo?

Customer

How does rPET feed into key customers sustainability agenda?

Which customers are more advanced in it and which ones need to be educated?

What are our competitors doing in terms of activations with Customers of Sustainability agenda?

Consumer

What is the level of consumer readiness/acceptance of rPET in beverages?

What are the key concerns consumers have against it?

What are the most open / demanding consumer cohorts from sustainability perspective?

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Pre-work Situation Assessment

Pep & Market Key Info

Pack mix	Text
PET volume (cases)	Text
PET volume (kg)	Text
PET growth rate	Text
rPET availability	Text
RCBR compliance	Text

Regulatory Situation

Text

Recycling Infrastructure

Rate	Text
Method	Text

Positives

Text

Stakeholders Mapping

Customers	Text
NGOs	Text
Media	Text
Competitors	Text

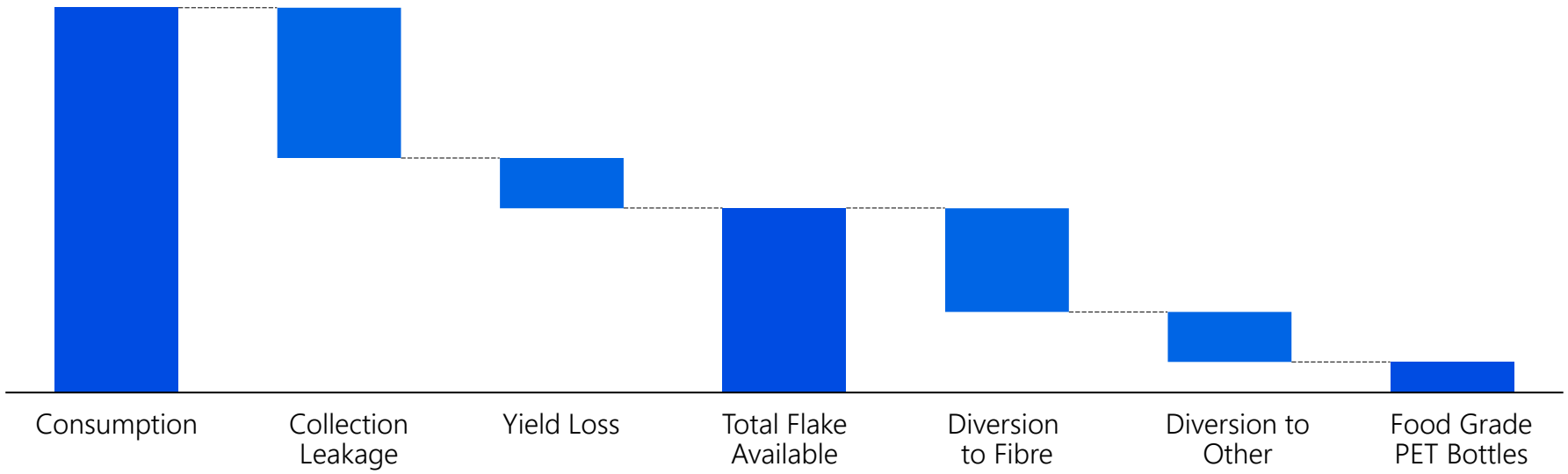
Negatives, Threats

Text

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rPET Value Chain for your Market

	Consumption	Collection Leakage	Yield Loss	Total Flake Available	Diversion to Fibre	Diversion to Other	Food Grade PET Bottles
Bottles produced %	100%	x%	x%	x%	x%	x%	x%



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SWOT



	Internal Factors	
	Strengths S Text	**Weaknesses** W Text
External Factors	**Opportunities** O Text	**Key Possibilities Iso Challenges** P Text
	Threats Y Text	**So What : Key Challenges** C Text

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Key focus areas and trade offs

		Actions In Progress Or Done	To Be Considered	Estimated Investment
Reduce	Pack mix	List actions	List considerations	List estimated investment
	Lightweighting			
Recycle	Consumer	List actions	List considerations	List estimated investment
	Collection			
	Conversion			
	Inclusion			
	Customer			
	Consumer			
Reinvent	Returnables	List actions	List considerations	List estimated investment
	AFH			
	Other business models			

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Decision Map

Output document for integration in 3 Year Joint Plan document

		Aligned / Decided	Still to be investigated	Not aligned
Reduce	Pack mix	List initiatives	List initiatives	List initiatives
	Lightweighting			
Recycle	Consumer	List initiatives	List initiatives	List initiatives
	Collection			
	Conversion			
	Inclusion			
	Customer			
	Consumer			
Reinvent	Returnables	List initiatives	List initiatives	List initiatives
	AFH			
	Other business models			
PEP - Associated costs		XXX USD	XXX USD	XXX USD
Bottler - Associated costs		XXX USD	XXX USD	XXX USD

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Proposed system connection plan

	Type	Cadence	PEP Leads	Bottler Leads
System Steer Co	List type	List cadence	List leads	List leads
Reduce				
Recycle				
Reinvent				

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5C Action Plan

	Key bottle-necks hampering circularity	Key initiatives identified to unlock bottle-necks	Initiative time-line	Initial cost estimation of initiative	Responsible
Consumer	List actions	List key initiatives	List timeline	List cost	List responsibilities
Collection					
Conversion					
Inclusion					
Customer					
Consumer					

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